Catalog

MCM-2009

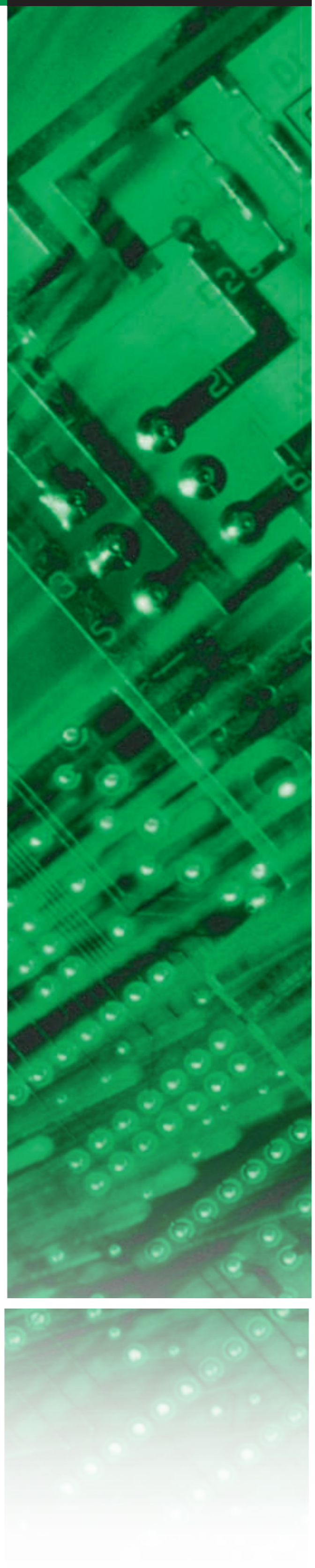
Ceiling Exposed Split Systems

Models:

MCM 020D/DR
MCM 025D/DR
MCM 030D/DR

MCM / M5CM 040D/DR
MCM / M5CM 050D/DR
MCM / M5CM 062C/CR





McQuay® Air Conditioning

Engineered for flexibility and performance.™

Table of Contents

This manual supercedes MCM-2008

Note: Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations, and experienced with this type of equipment.

Caution: Sharp edges and coil surfaces are a potential injury hazard. Avoid contact with them.

Warning: Moving machinery and electrical power hazards. May cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

Nomenclature

Indoor

M	5	CM	040	D	R	-	A	F	C	A

Product Specification Variation
AA : Revision

Type of Connection
F : For Flare

Electrical Characteristic
A : 220 – 240V/1Ph/50Hz
K : 208 – 230V/1Ph/60Hz

Model Type
R : Heatpump
Omitted if Cooling Only

Series
C : C Series
D : D Series

Capacity
040 : 40,000 Btu/h

Model Name
CM : Ceiling Exposed

Refrigerant
4 : R407C
5 : R410A
Omitted if R22

Brand
M : McQuay

Outdoor

Others

A : First issue

Specifications Variation

O : Standard Unit
B : with Contactor
G : Low Ambient Unit
H : High Ambient Unit
I : Gold Fins
L : Long Piping Unit
S : With H/L Pressure Switch
X : Oxygen Unit

Compressor

P : Matsushita Rotary
M : Mitsubishi Rotary
T : Toshiba Rotary

Market Region

C : Export with CE marking
E : Export without marking
U : ETL spec

Electrical

A : 220-240V/1Ph/50Hz

M	5	LC	020	C	R	-	A	C	P	O	A

Model Type

R : Heatpump
Omitted if Cooling Only

Series

C : C series

Capacity

020 : 20,000 Btu/h

Model Name

LC : Single Split Condensing Unit

Refrigerant

5 : R410A
Omitted if R22 Model

Brand

M : McQuay

Outdoor

Product Specification Variation

A : First issue

Type of Connection

F : For Flare

Electrical Characteristic

A : 220 – 240V/1Ph/50Hz
F : 380 – 415V/3Ph/50Hz
K : 208 – 230V/1Ph/60Hz

M	4	LC	030	C	R	-	A	F	G	E

Model Type

R : Heatpump
Omitted if Cooling Only

Series

B : B Series
C : C Series

Capacity

030 : 30,000 Btu/h

Model Name

LC : Single Split Condensing Unit

Refrigerant

4 : R407C
Omitted if R22

Brand

M : Mcquay

Product Line Up

Indoor Unit
MCM-D Series Product Line Up (R22)

MCM		NONMENCLATURE	Classification											
			Control	Handset		Marking				Fin		Refrigerant Control		Convertible
			L208A PCB	SLM	G7 Handset	CE Mark	W/out Marking	ETL	SASO	Alum. (Corrugated)	Hydrophilic (Corrugated)	Cap. Tube	W/out Cap. Tube	
Cooling Model	020D	AFBB	X	X		X				X			X	
		AFCA	X		X	X				X			X	
	025D	AFBB	X	X		X				X			X	
		AFCA	X		X	X				X			X	
	030D	AFDA	X		X	X					X	X		X
		AFDF	X	X		X					X	X		X
	040D	AFDA	X		X	X					X	X		X
		AFDF	X	X		X					X	X		X
	050D	AFDA	X		X	X					X	X		X
		AFDF	X	X		X					X	X		X
	062C	AFAA	X		X	X						X		
Heat Pump Model	020DR	AFBB	X	X		X				X			X	
		AFCA	X		X	X				X			X	
	025DR	AFBB	X	X		X				X			X	
		AFCA	X		X	X				X			X	
	030DR	AFDA	X		X	X					X		X	X
		AFDB	X	X		X					X		X	X
	040DR	AFDA	X		X	X					X		X	X
		AFDB	X	X		X					X		X	X
	050DR	AFDA	X		X	X					X		X	X
		AFDB	X	X		X					X		X	X
	062CR	AFAA	X		X	X						X		
		AFAB	X	X		X						X		

Indoor Unit
M5CM-D Series Product Line Up (R410A)

M5CM		NONMENCLATURE	CLASSIFICATION							
			Control	Handset			Marking	Fin		Refrigerant Control
			L2	G8 Handset	G12 Handset	SLM	CE Mark	Hydrophilic (Slit)	Aluminium (Slit)	W/out Cap.Tube
Cooling Model	040D	AFAA	X			X	X	X		X
		AFAB	X		X		X	X		X
	050D	AFAA	X			X	X	X		X
		AFAB	X		X		X	X		X
	062C	AFAA	X			X	X		X	X
		AFAB	X		X		X		X	X
Heat Pump Mod	040DR	AFAA	X			X	X	X		X
		AFAB	X		X		X	X		X
	050DR	AFAA	X			X	X	X		X
		AFAB	X		X		X	X		X
	062CR	AFAA	X			X	X		X	X
		AFAB	X		X		X		X	X

Outdoor Unit
MLC-C Series Product Line Up

			Classification														
MLC		Nomenclature	Refrigerant Ctrl + Fin			Special		Safety Devices					Grille	Compressor		Marking	
			Cap. Tube	TXV	Gold Fin	High Ambient Kit	Low Ambient Kit	Contactor	High Pressure Switch	Low Pressure Switch	Nantong Press. SW	Phase Sequencer	Drain Elbow	Copeland Scroll Comp.	Rotary	CE Marking	ETL
Cooling Model	018C	ACPOD	X												X	X	
		ACPID	X		X										X	X	
	020C	ACPOD	X												X	X	
		ACPID	X		X										X	X	
	025C	ACPOD	X												X	X	
		ACPID	X		X										X	X	
	028C	ACPOA													X	X	
		ACPIA			X										X	X	
	030C	AFGE						X	X	X	X			X		X	
		AFGF				X		X	X	X	X			X		X	
		AFGG			X			X	X	X	X			X		X	
		FFGE						X	X	X	X	X		X		X	
		FFGG			X			X	X	X	X	X		X		X	
	035C	AFGE						X	X	X	X			X		X	
		AFGG			X			X	X	X	X			X		X	
	040C	AFGE						X	X	X	X			X		X	
		AFGG			X			X	X	X	X			X		X	
		FFGE						X	X	X	X	X		X		X	
		FFGF				X		X	X	X	X	X		X		X	
		FFGG			X			X	X	X	X	X		X		X	
	050C	FFGE						X	X	X	X	X		X		X	
		FFGF				X		X	X	X	X	X		X		X	
		FFGG			X			X	X	X	X	X		X		X	
	060C	FFFE						X	X	X	X	X		X		X	
		FFFF				X		X	X	X	X	X		X		X	
		FFFG			X			X	X	X	X	X		X		X	
Heat Pump Model	018CR	ACPOD	X												X	X	
		ACPID	X		X										X	X	
	020CR	ACPOD	X												X	X	
		ACPID	X		X										X	X	
	025CR	ACPOD	X												X	X	
		ACPID	X		X										X	X	
	028CR	ACPOA	X												X	X	
		ACPIA	X		X										X	X	
	030CR	AFFB	X	X				X	X		X		X	X		X	
		AFFC	X	X		X		X	X		X		X	X		X	
		AFFD	X	X	X			X	X		X		X	X		X	
		FFFB	X	X				X	X		X	X	X	X		X	
		FFFD	X	X	X			X	X		X	X	X	X		X	
	035CR	AFFB	X	X				X	X				X	X		X	
		AFFD	X	X	X			X	X				X	X		X	
	040CR	AFFB	X	X				X	X		X		X	X		X	
		AFFD	X	X	X			X	X		X		X	X		X	
		FFFB	X	X				X	X		X	X	X	X		X	
		FFFC	X	X		X		X	X		X	X	X	X		X	
		FFFD	X	X	X			X	X		X	X	X	X		X	
	050CR	FFFB	X	X				X	X		X	X	X	X		X	
		FFFC	X	X		X		X	X		X	X	X	X		X	
		FFFD	X	X	X			X	X		X	X	X	X		X	
	061CR	FFFB	X					X	X		X	X	X	X		X	
		FFFC	X			X		X	X		X	X	X	X		X	
		FFFD	X		X			X	X		X	X	X	X		X	

Outdoor Unit
M5LC-C Series Product Line Up

M5LC		Nomenclature	Classification: Ctrl + Fin Refrigerant			Special		Safety Devices					Grille	Compressor		Marking	
			Cap. Tube	TXV	Gold Fin	High Ambient Kit	Low Ambient Kit	Contactor	High Pressure Switch	Low Pressure Switch	Nantong Press. SW	Phase Sequencer	Drain Elbow	Copeland Scroll Comp.	Rotary	CE Marking	ETL
Cooling Model	028C	ACPOA	X												X	X	
		ACPIA	X		X										X	X	
		FCPOA	X					X							X	X	
		FCPIA	X		X			X							X	X	
	035C	ACCOA	X	X				X	X	X				X		X	
		ACCIA	X	X	X			X	X	X				X		X	
		FCCOA	X	X				X	X	X	X	X		X		X	
	040C	ACCOB	X					X	X	X	X			X		X	
		FCCOB	X					X	X	X	X	X		X		X	
	050C	FCCOB	X					X	X	X		X		X		X	
	061C	FCCOB	X					X	X	X		X		X		X	
Heating Model	028CR	ACPOA	X												X	X	
		ACPIA	X		X										X	X	
		FCPOA	X					X					X		X	X	
		FCPIA	X		X			X					X		X	X	
	035CR	ACCOA	X	X				X	X	X				X		X	
		ACCIA	X	X	X			X	X	X				X		X	
		FCCOA	X	X				X	X	X	X	X	X	X		X	
		FCCGA	X	X	X			X	X	X		X	X	X		X	
	040CR	ACCOB	X					X	X	X	X		X	X		X	
		FCCOB	X					X	X	X	X	X	X	X		X	
	050CR	FCCOB	X					X	X	X		X	X	X		X	
	061CR	FCCGA	X					X	X	X		X	X	X		X	

Features

Ultra Slim New Stylish Design Profile
This unit is contemporary in design and match even the most up to date interior decor. The slim, round profile and compact design of this unit adds a touch of elegance to every decor. No indoor connection pipe and hanger bracket are visible.

Ceiling and Floor Convertible with Space Saving Installation
This unit is designed for ceiling exposed type and floor exposed type with a very economical and space saving installation. No need renovation to wall or ceiling for ceiling exposed and no foundation work is required for floor exposed installation. This easy to install and ready to operate unit ensure rapid and low installation cost.

Strong and Robust
The unit is built from strong casing material and robust parts to ensure long lasting reliable service. The drain pan is made from the POLYSTYRENE with a plastic coating on the surface to ensure no leaking and no condensation occur.

Friendly Serviceability
The air filter, electrical parts, fan and fan motor assembly can all be inspected and replace from bottom of the unit by simply removing the newly designed press in, pull out air intake grille. The POLYSTYRENE drain pan and the heat exchanger coils can remove from the unit easily by remove the bottom panel.

Microcomputer Remote Controller
The incorporated microprocessor give more accurate control and with the following extra features:

- Fan motor speed can be set at high/medium/low and automatic.
- Timer on/off - the unit can be pre-set to on and off automatically.
- Electronic thermostat - room temperature is precisely controlled resulting in energy saving and increase comfort.
- Sleep mode automatically increase set temperature since room temperature is lower at night thus achieving healthy sleep.

Wireless Remote Controller
The compact wireless remote controller makes it possible to operate the air conditioner anywhere within the room.

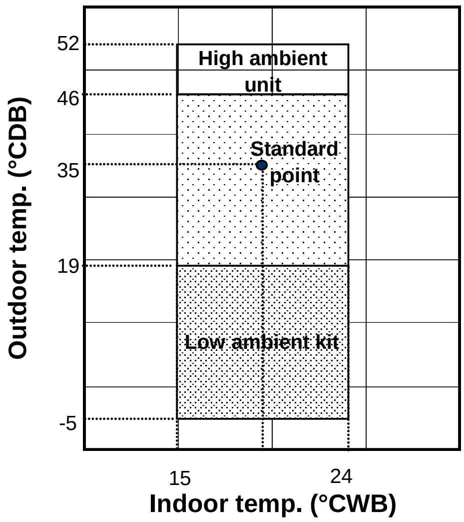
Auto or Manual Control On Vertical Airflow Direction
With auto control, the louver will automatically swing up and down to create an excellent air distribution. You can select your desired horizontal air flow direction by adjusting the vertical grille.

Application Information

Operating Range

Ensure the operating temperature is in allowable range.

Cooling only

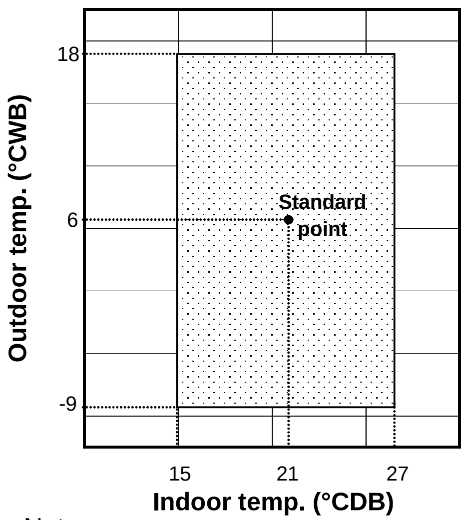


⚠ Caution :

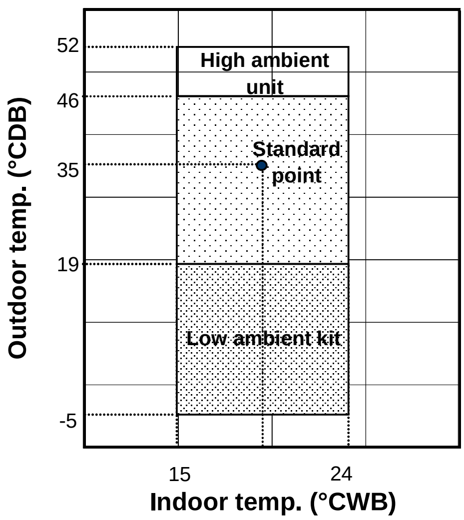
The use of your air conditioner outside the range of working temperature and humidity can result in serious failure.

Heat pump

Heating



Cooling



Note :

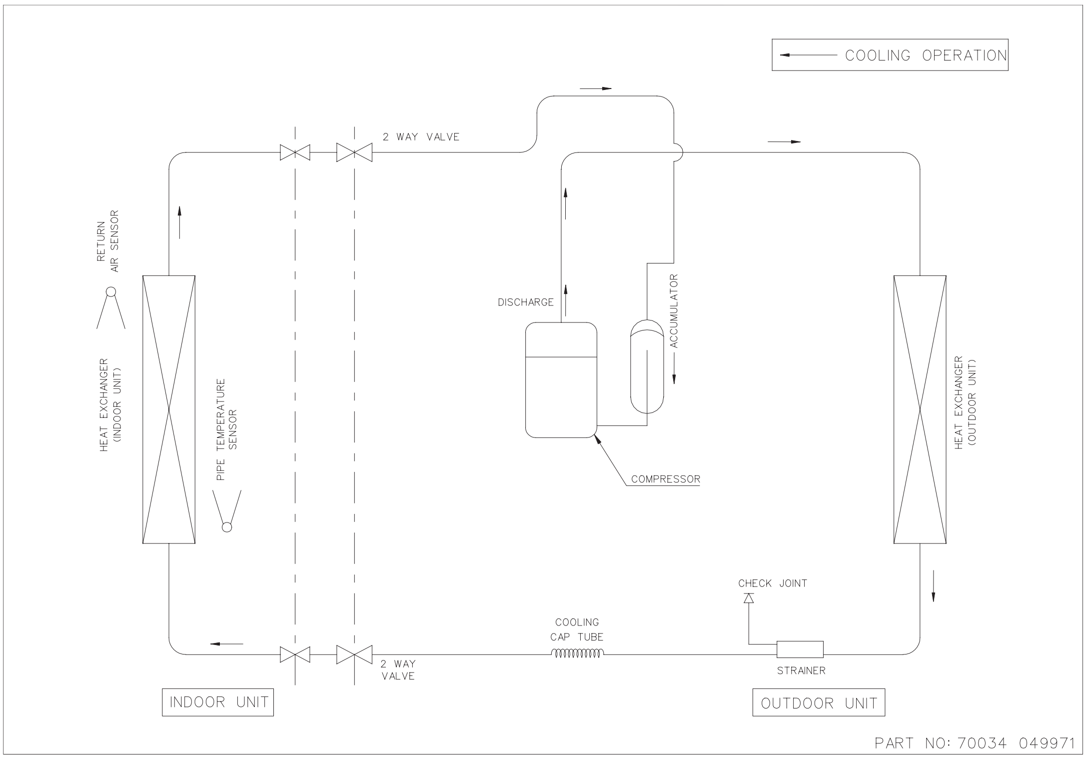
Standard operating range.

With High ambient unit. (Optional item)
Please refer to local dealer for unit of this specification.

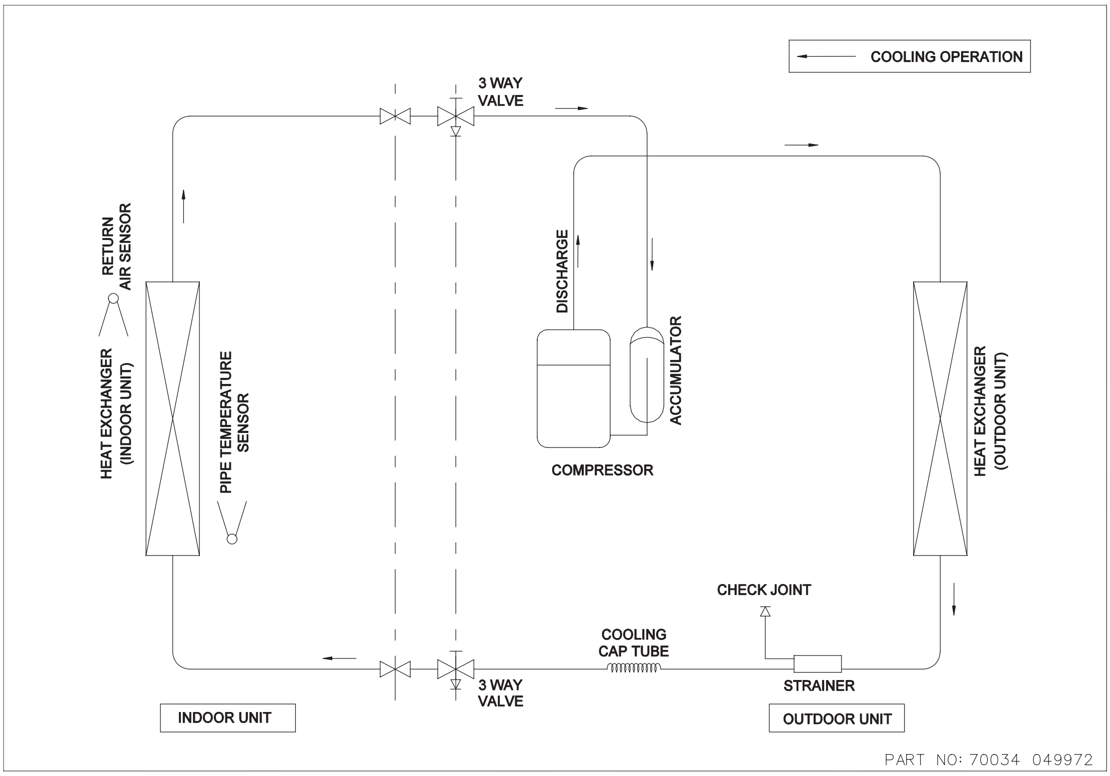
With Low ambient kit. (Optional item)
Please refer to local dealer for unit of this specification.

Refrigerant Circuit Diagram

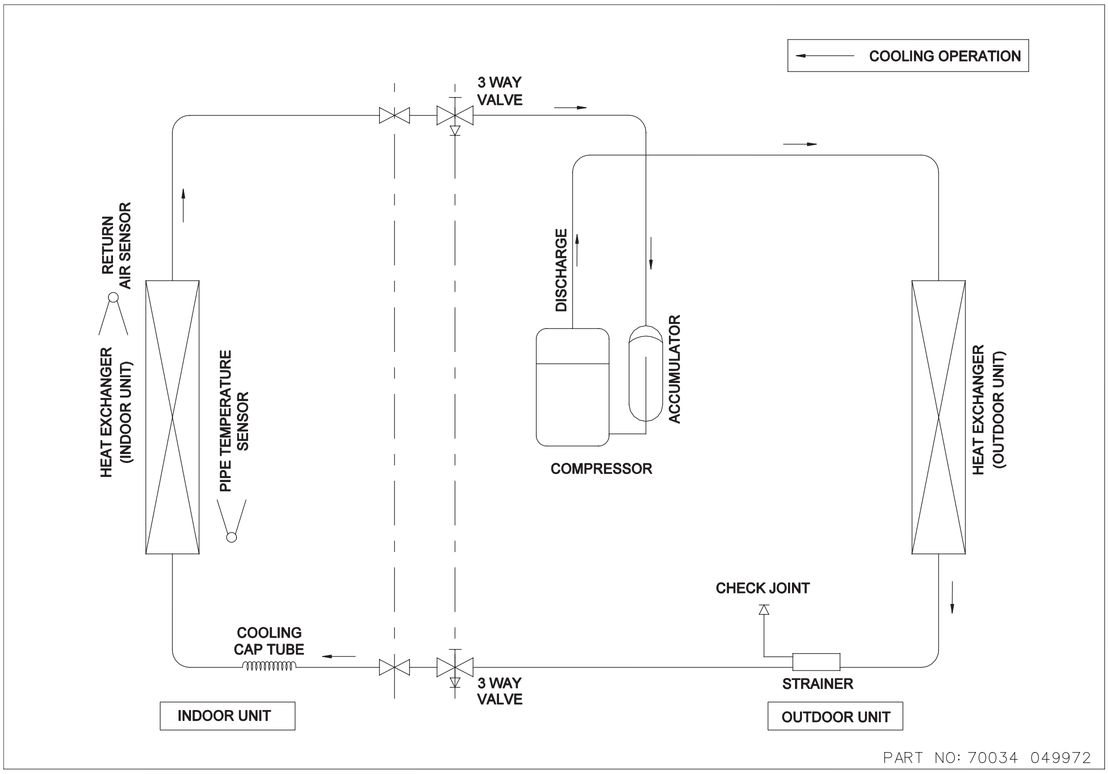
Model: MCM 020D – MLC 018 / 020C



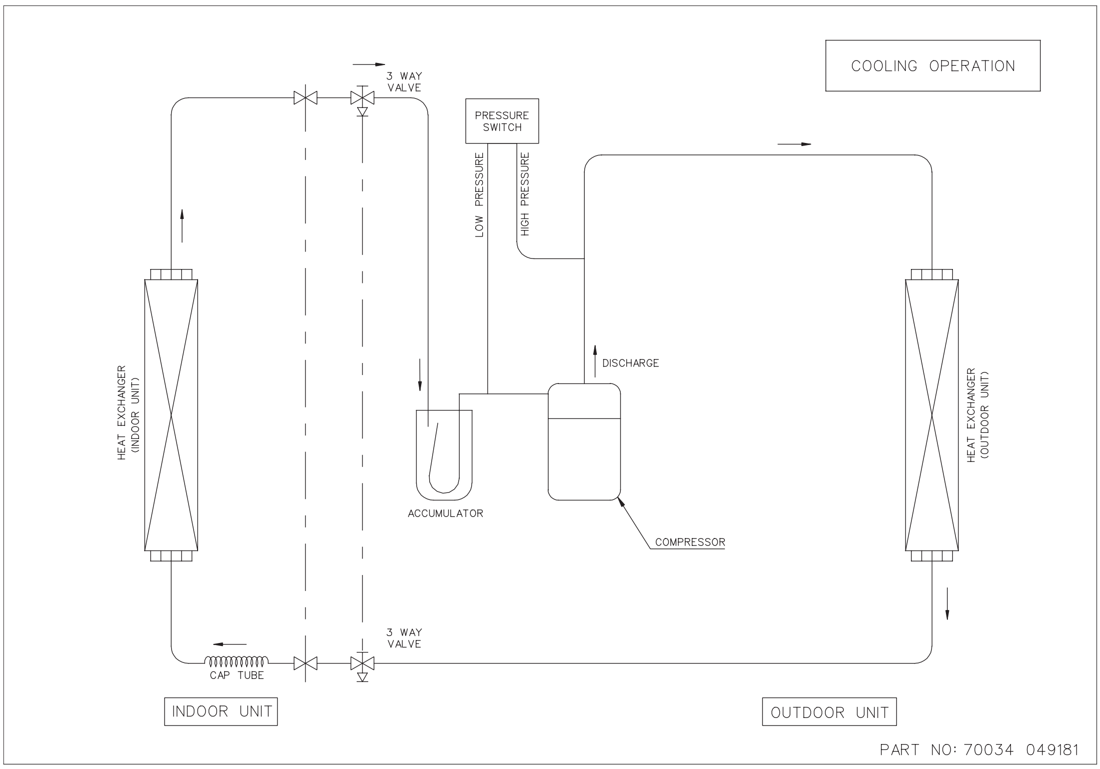
MODEL: MCM 025D – MLC 025C



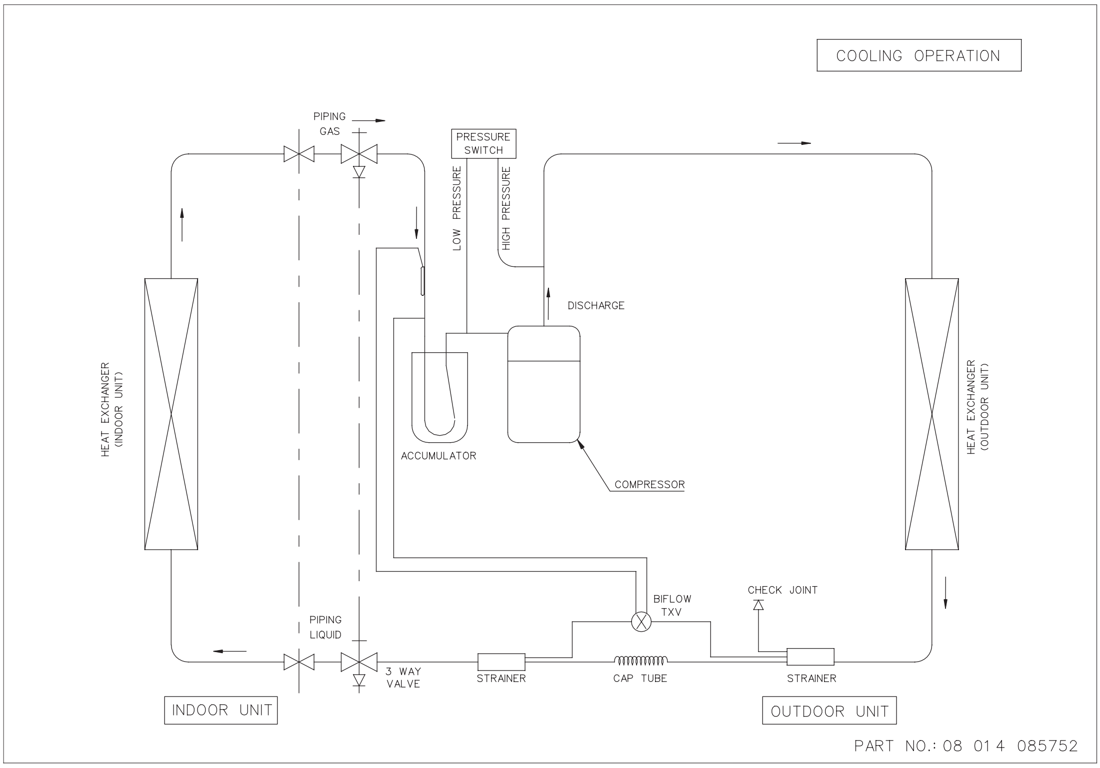
Model : **MCM 030D – MLC 028C**



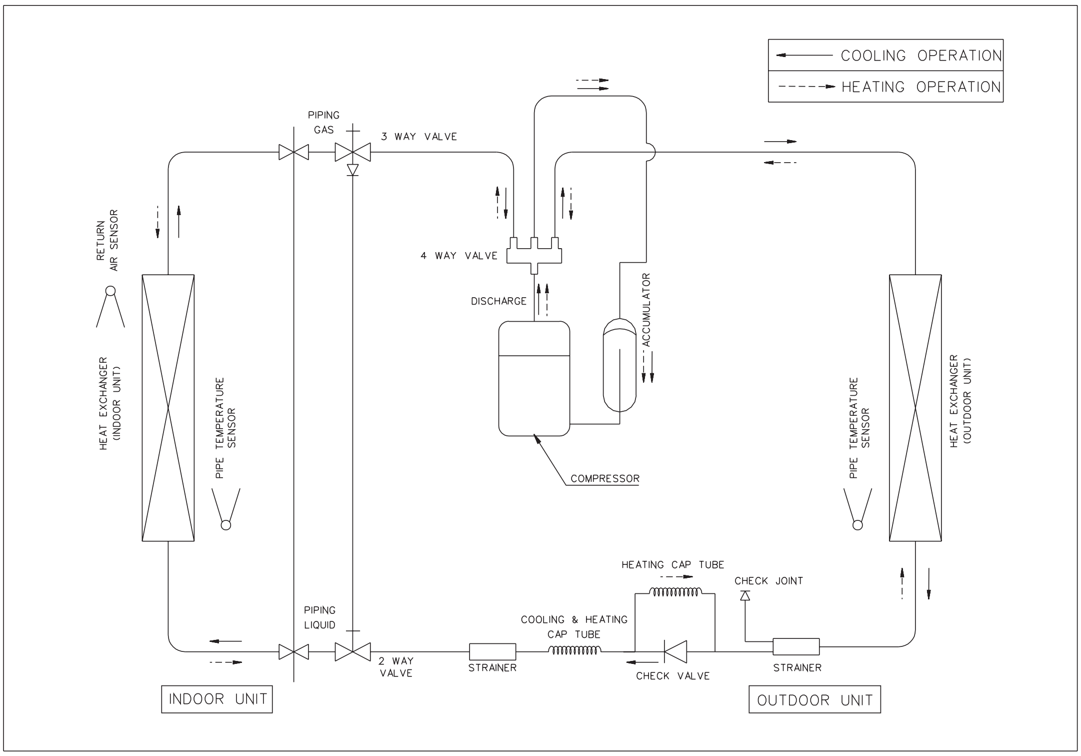
Model : **MCM 030D – MLC 030C**
MCM 040D – MLC 035 / 040C
MCM 050D – MLC 050C
MCM 062C – MLC 061C



Model : M5CM 040D – M5LC 035 / 040C
M5CM 050D – M5LC 050C
M5CM 062C – M5LC 061C

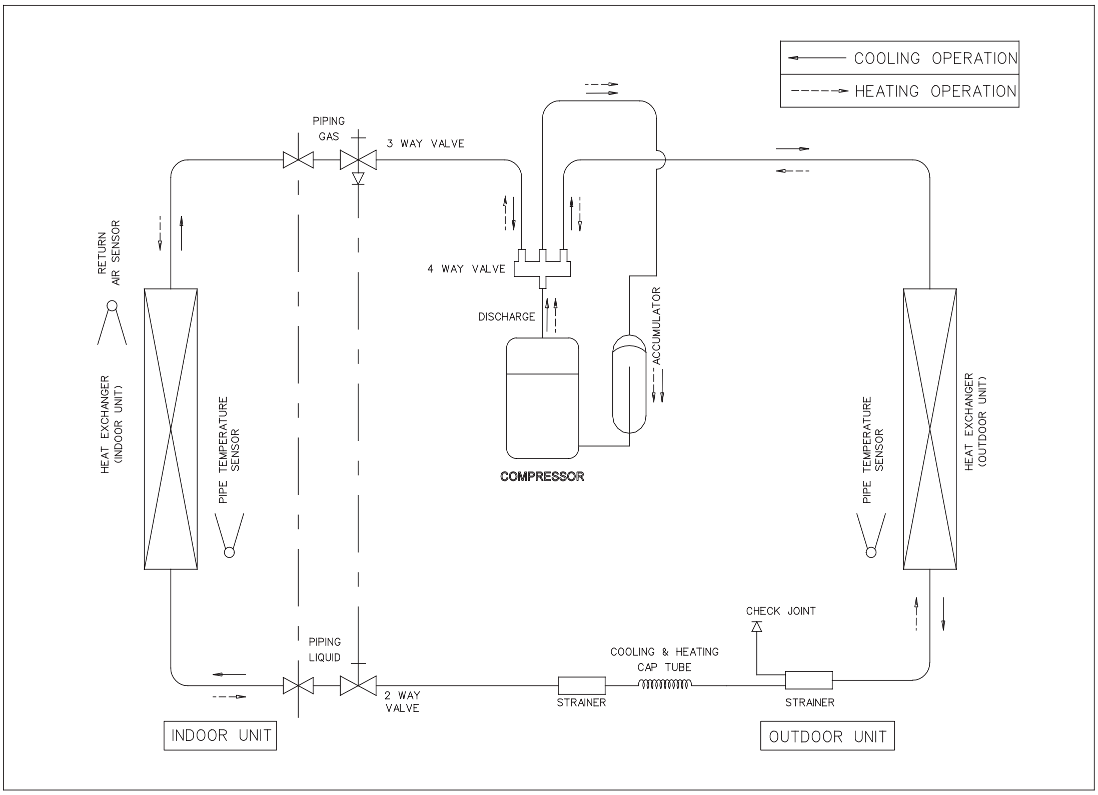


Model : MCM 020DR – MLC 018 / 020CR

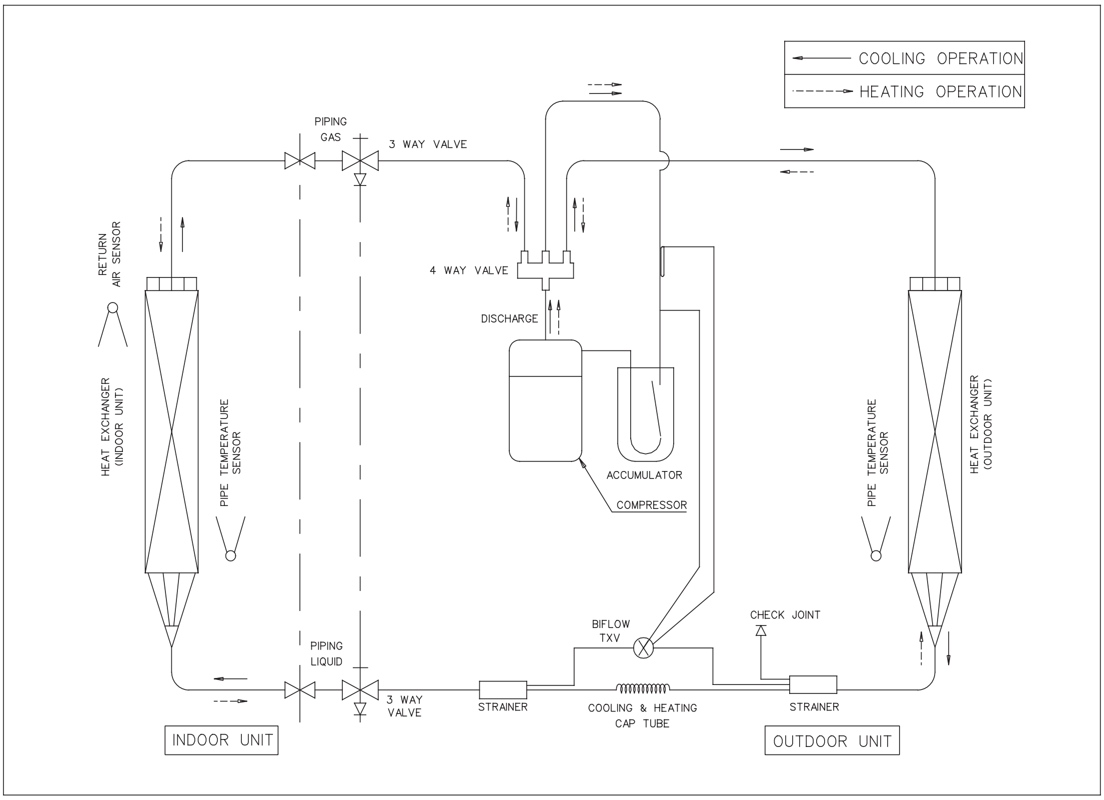


PART NO.: 70 03 4 095238

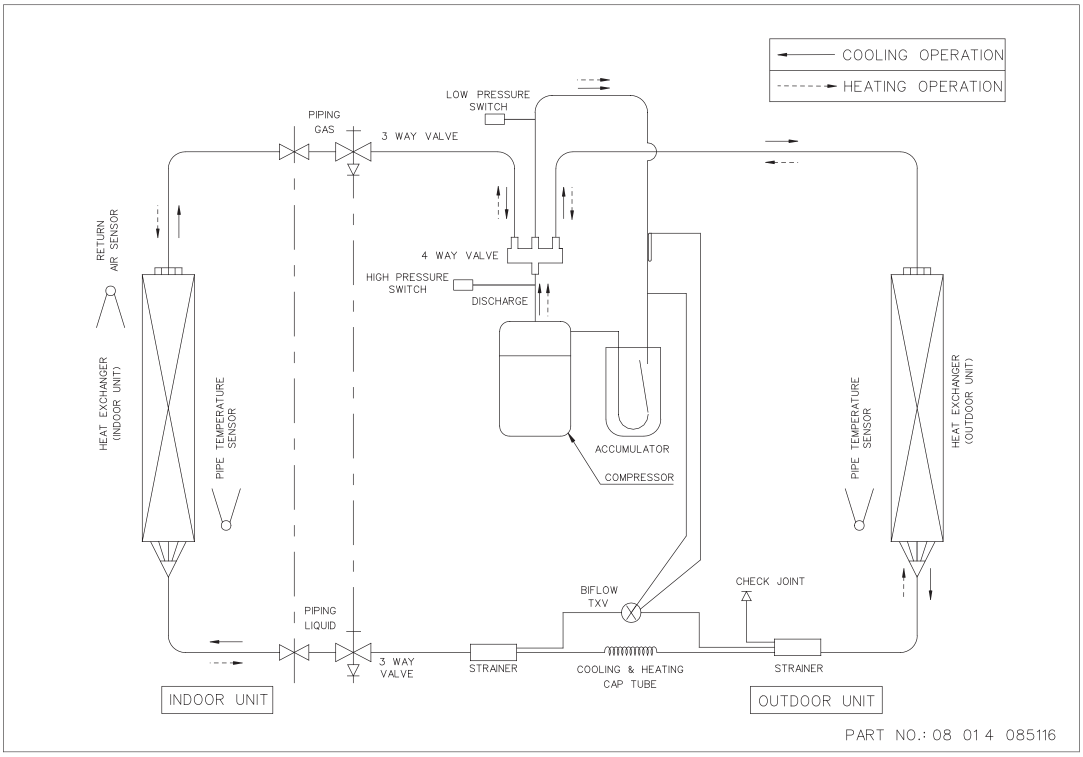
Model : MCM 025DR - MLC 025CR
MCM 030DR - MLC 028CR



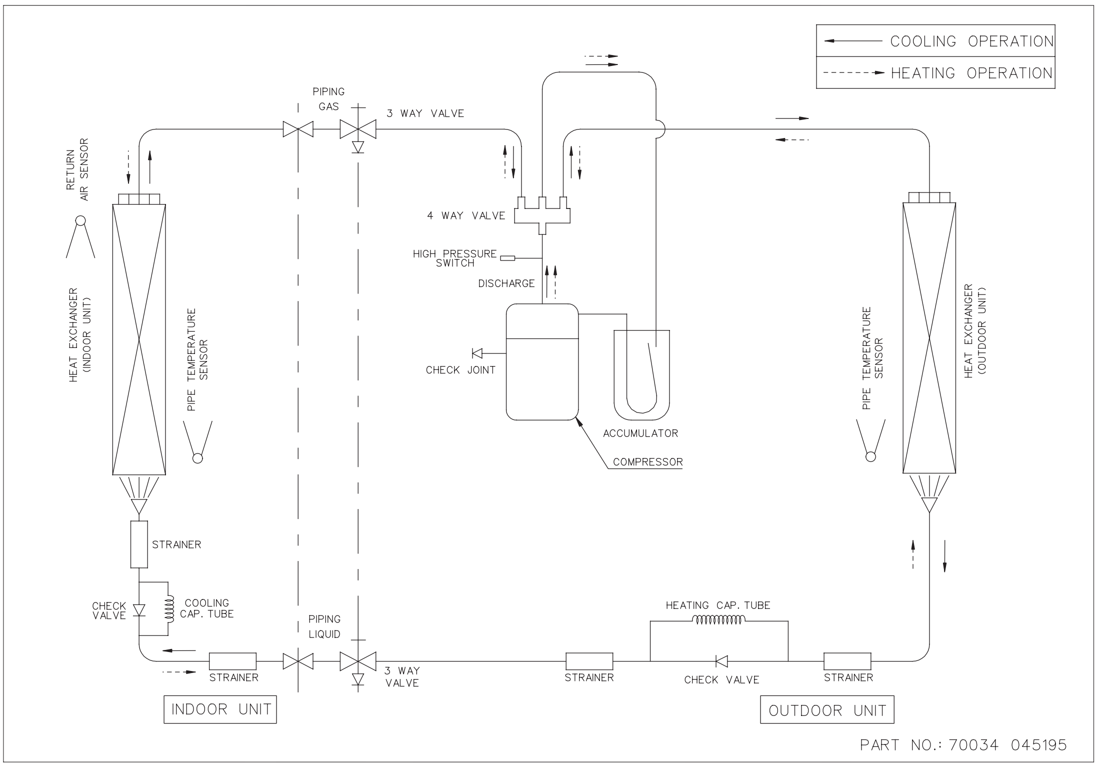
Model : MCM 030DR - MLC 030CR
MCM 040DR - MLC 040CR
MCM 050DR - MLC 050CR



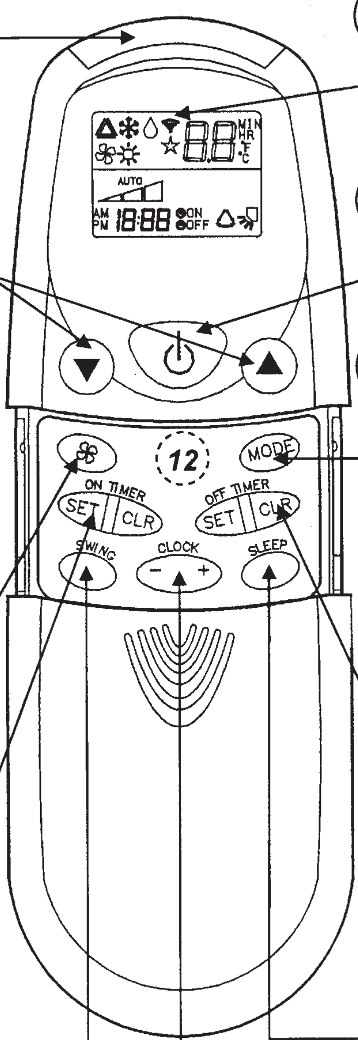
Model : **M5CM 040DR – M5LC 035 / 040CR**
M5CM 050DR – M5LC 050CR
M5CM 062CR – M5LC 061CR



Model : **MCM 062CR – MLC / M4LC 061CR**



G7 Remote Controller



1 **.Transmission source**

- The source where the signal will be transmitted.

2 **Signal Transmission indication**

- Blink to confirm the last setting has been send to the unit.

3 **On/Off Button**

- Press once to start the air conditioner.
- Press again to stop the unit.

4 **Temperature setting**

- To set the desired room temperature, press the button to increase or decrease the set temperature.
- The temperature setting range is from 16°C to 30°C (Optional setting 18°C to 30°C).
- Press both buttons simultaneously to toggle the temperature setting between °C and °F.

5 **Operation mode**

- Press the MODE button to select the type of operating mode.
- For cooling only unit, the available modes are : COOL, DRY & FAN.
- For heat pump unit, the available modes are : AUTO, COOL, DRY, FAN & HEAT.

6 **Fan speed selection**

- Press the button until the desired fan speed is achieved.

7 **ON timer setting**

- Press the SET button will activate the on timer function.
- Set the desired on time by pressing the SET button continuously. If the timer is set to 7.30am, the air conditioner will turn on at 7.30 sharp.
- Press the CLR button to cancel the on timer setting.

8 **OFF timer setting**

- Press the SET button will activate the off timer function.
- Set the desired off time by pressing the SET button continuously.
- Press the CLR button to cancel the off timer setting.

9 **Automatic air swing**

- Press the SWING button to activate the automatic air swing function.
- To distribute the air to a specific direction, press the SWING button and wait until the louver move to the desired direction and press the button once again.

10 **Sleep mode setting**

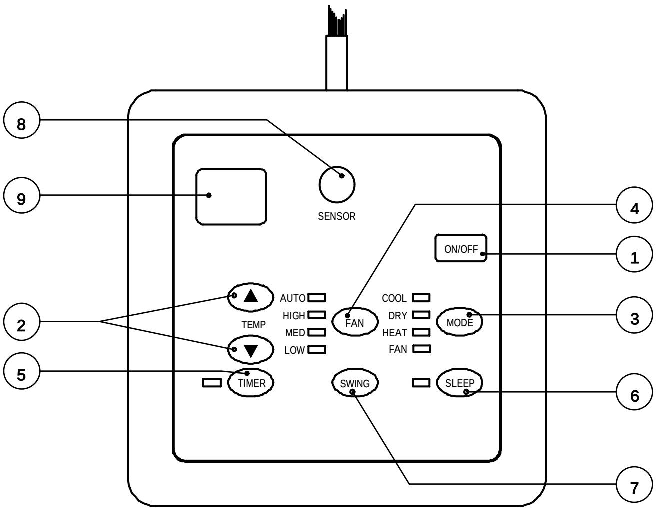
- Press the button to activate sleep mode. This function is available under COOL, HEAT & AUTO mode.
- When it is activated in COOL mode, the set temperature will be increased 0.5°C after 30mins, 1°C after 1 hour and 2°C after 2 hours.
- When it is activated in HEAT mode, the set temperature will be decreased 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

11 **Clock time setting**

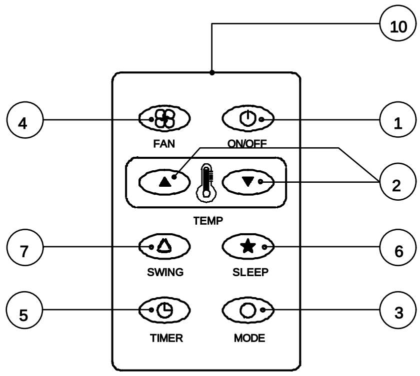
- Press button + or - to increase or decrease the clock time.

12 **Turbo function (optional – only applicable to inverter unit)**

- Press button for fast cooling or heating operation.
- The temperature will be increased internally if it is in the HEAT mode, decreased if in COOL or DRY mode. Fan speed will be increased if it is not at maximum speed.
- The temperature & fan speed will resume to user setting if the button is pressed again or after 20mins.
- Available under HEAT, COOL & DRY modes only.



SLM



AC-5300 (OPTIONAL)

1. "ON/OFF" switch
- Press to start the air conditioner unit.
- Press again to stop the unit.

2. Temperature setting
- Set the desired room temperature.
- Press button to increase or decrease the set temperature. Setting range are between 16°C to 30°C (60°F to 80°F).

3. Operation Modes
- Press the "mode" button for select the type of operating mode.
  - Cooling Only :
    COOL, DRY, FAN
  - Heat Pump :
    AUTO, COOL, DRY, HEAT, FAN
  (AUTO mode is represented by both COOL and HEAT LED light on)

4. Fan Speed selection.
- Press the button until the desired fan speed is achieved.

5. Timer.
- Press the set button to select the switch timer of the air conditioner unit (the setting range is between 1 to 10 hours).

6. "Sleep" mode
- Press button to activate the sleep function can only be activated under "cool" or heating mode operation. activated under "cool" mode operation, the set temperature will increase 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours. If it is actiaved under "HEAT" mode operation, the set temperature will be descreased 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours.

7. Air Swing
- Press button to activate the automatic air swing function.

8. Sensor
- Infra red sensor to receive signals from wireless controller.

9. LED Display
- To display the set temperature (in °C) and timer delay setting (in hours).

10. Transmission source
- To transmit signals to the air conditioner.

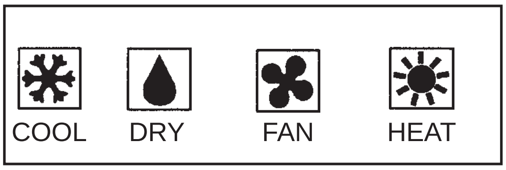
Operating State and Fault Table

Wireless Remote Controller - Handset

Cooling: LED Indicator Light Display



Heatpump : LED Indicator Light Display



Self Diagnosis Table

COOL	DRY	FAN	HEAT	Operation / Faulty Indication
○				Cool Mode
	○			Dry Mode
		○		Fan Mode
			○	Heat Mode
○			◑	Auto Mode - Cool
◑			○	Auto Mode - Heat
◑				Compressor Overload
◑	◑			Gas Leak
	◑			Outdoor Coil Sensor Open / Short
	◑	◑		Indoor Coil Sensor Open / Short
		◑		Room Sensor Open / Short

○ ON ○ / ● ON or OFF ◑ BLINKING

Wired Remote Control - SLM

Cooling / Heatpump Model

Error Code at 7 Segment Display	Operation / Faulty Indication
Blink E1	Room sensor open / short
Blink E2	Indoor coil sensor open
Blink E3	Outdoor coil sensor open
Blink E4	Compressor overload / Indoor Coil Sensor Short / Outdoor Coil Sensor Short
Blink E5	Gas leak
Blink Heat LED	Outdoor defrost (for Heatpump only)

Phsae Sequencer

The unit with Scroll Compressor can only rotate in one direction. For this reason, a protective device (phase sequencer) is fitted to prevent incorrect wiring of the electrical phases. When the three phases are not connected correctly, the phase sequencer operates, and the unit will not start. This devise is located in the control box of the outdoor unit.

The following table shows the LED indicator light for phase sequencer under normal operation and fault conditions.

	LED_P (Red)	LED_R (Yellow)	LED_S (Yellow)	LED_T (Yellow)
Normal Operation	On	-	-	-
Reverse Phase	Blink	Blink	Blink	Blink
S & T Phase Missing	Blink	-	Blink	Blink
T Phase Missing	Blink	-	-	Blink
S Phase Missing	Blink	-	Blink	-
R Phase Missing	-	-	-	-
Overload	Blink	-	-	-
Sensor Missing	Blink	On	On	On

Notes: *1. "-" means LED off.*

2. When R phase missing, no LED or buzzer will indicate the error, but relay 71 (Common) and 81 (NO) will cut off.

3. The unit will check the discharge sensor availability only during power up.

4. All errors can only recover through ***manually reset****.*

Installation

Caution

Sharp edges and coil surfaces are potential injury hazard. Avoid from contact with them.

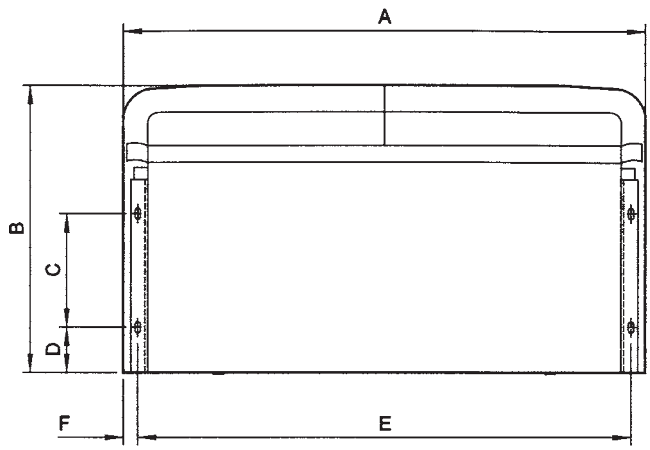
(1) Installation of Outdoor Unit

Preliminary Site Survey

- Electrical supply and installation is to conform to local authority's (e.g. National Electrical Board) codes and regulations.
- Voltage supply fluctuation must not exceed ± 10% of rated voltage. Electricity supply lines must be independent of welding transformer which can cause high supply fluctuations.
- Ensure that the location is convenient for wiring, piping and drainage

Standard Mounting

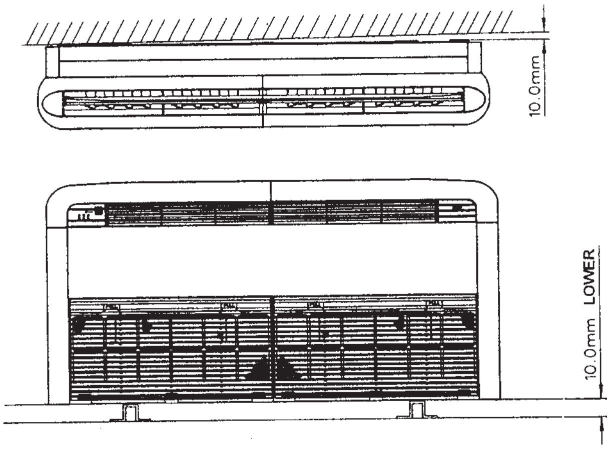
Ensure that the overhead supports are strong enough to hold the weight of the unit. Position the hanger rods (wall mounting bracket for floor standing), and check for its alignment with the unit as shown in Figure A. Also, check that the hangers are secured and the base of the fan coil unit is leveled in both horizontal directions, taking into account the gradient for drainage flow as recommended in Figure B.



All Dimension in mm

Model	MCM 020D/DR	MCM 025D/DR	MCM 030D/DR	MCM 040D/DR	MCM 050D/DR
A	1214	1214	1214	1714	1714
B	666	666	666	666	666
C	273	273	273	273	273
D	130	130	130	130	130
E	1136	1136	1136	1636	1636
F	39	39	39	39	39

MCM-D



MCM 062C

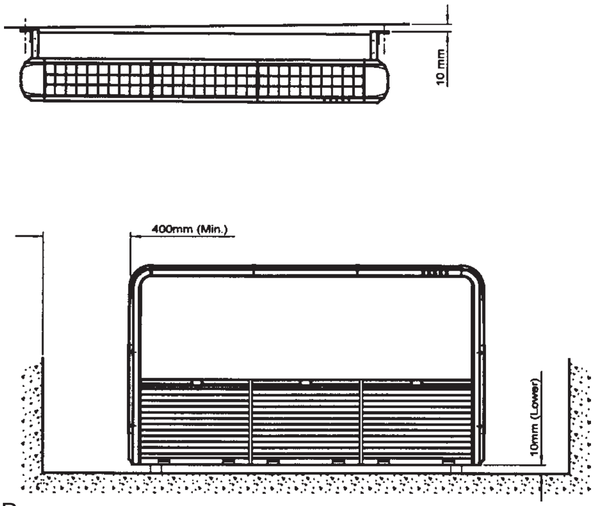


Figure B

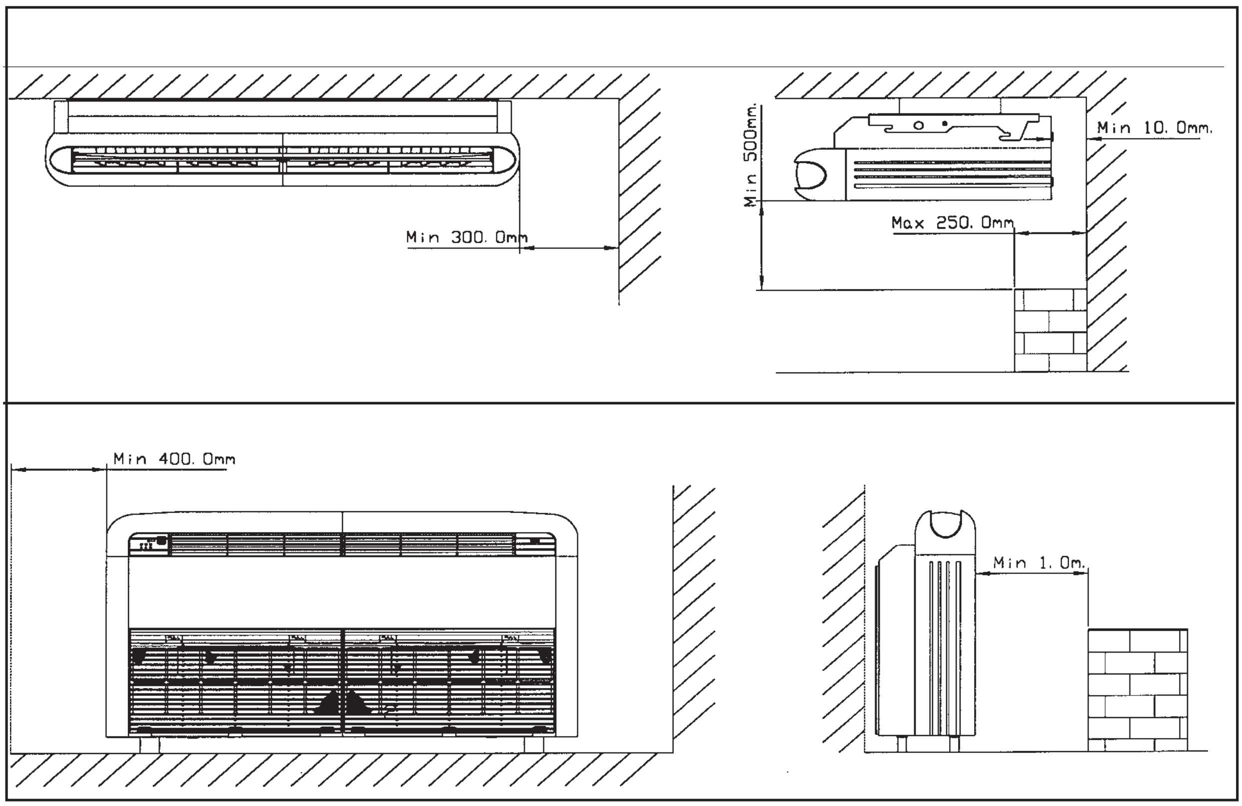
Please ensure that the following steps are taken :

- Check the gradient for drainage flow as recommended in Figure B.
- Provide clearance for easy servicing and optimal air flow as shown in Figure C.
- The indoor unit must be installed such that there is no short circuit of the cool discharge air with the warm return air.
- Do not install the indoor unit where there is direct sunlight shining on the unit. The location should be suitable for piping and drainage installation. The unit must be a large distance away from the door.

Semi-enclosed Mounting

- In case the unit is to be half recessed into false ceiling, please check the unit is well align.

MCM-D



MCM 062C

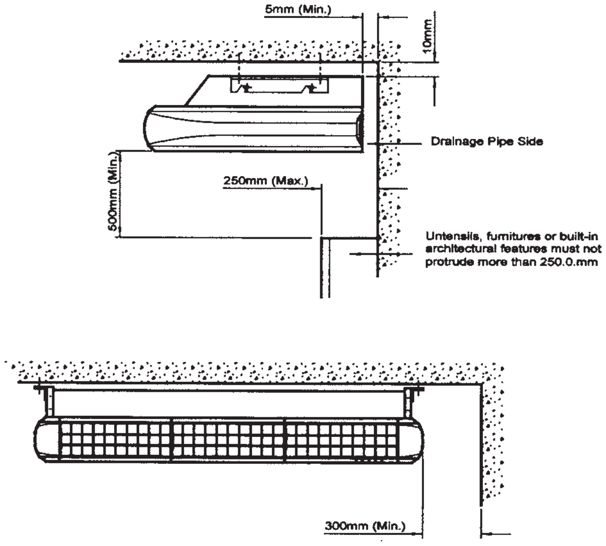
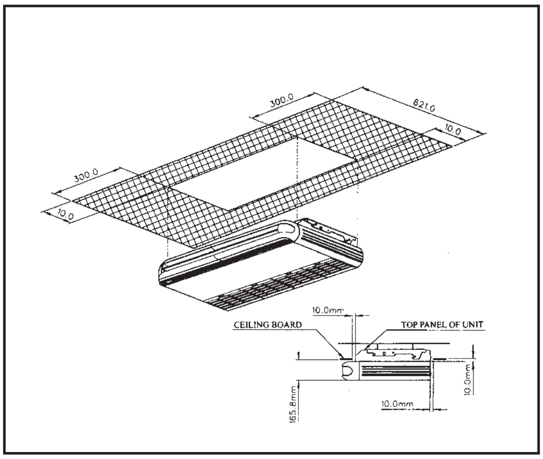


Figure C

- Provide the installation space as shown in Figure D.

MCM-D



MCM 062C

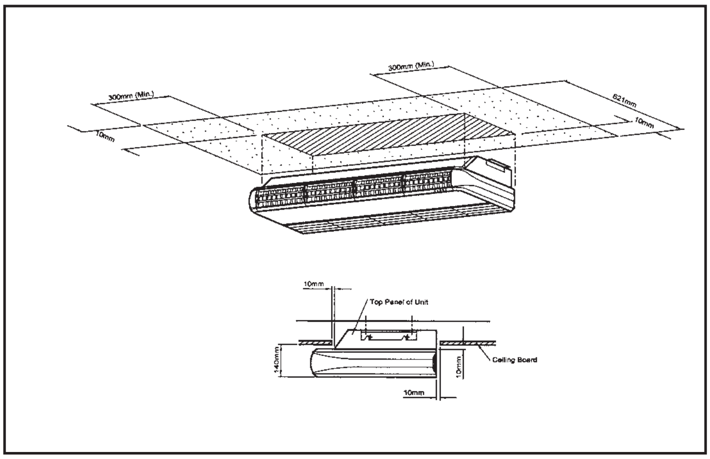


Figure D

Installation - Ceiling Exposed Type

STEP 1

Remove air intake grille, side panel, side close-up and hanger bracket from the unit; see Fig E.

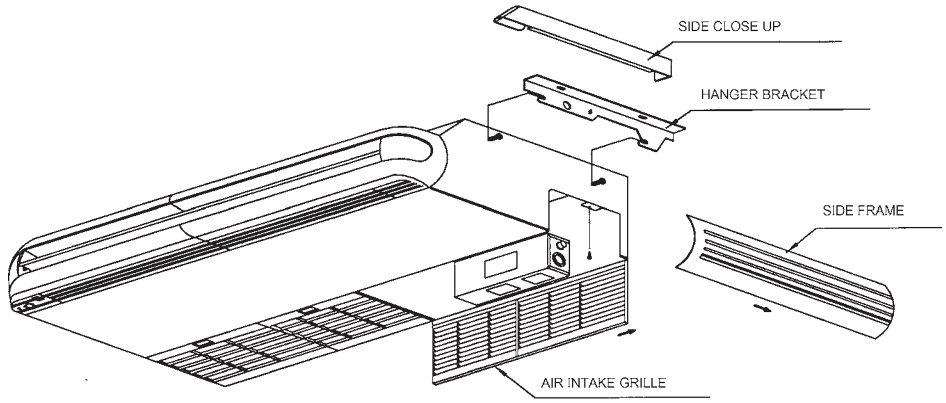


Figure E

STEP 2

Position the hanger rods as per Fig B and install the hanger bracket; see Fig F.

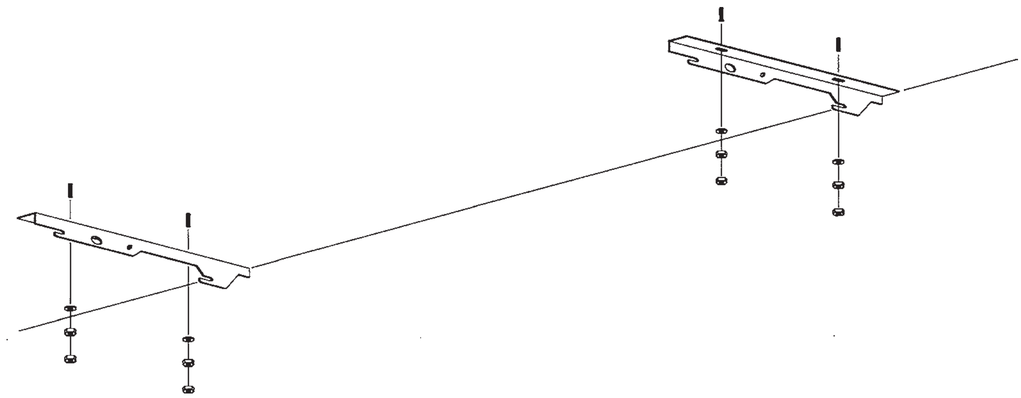


Figure F

STEP 3

Hanger up the unit and tighten the bolt, after completed the piping and drain pipe; install back the grille and panel Fig. G.

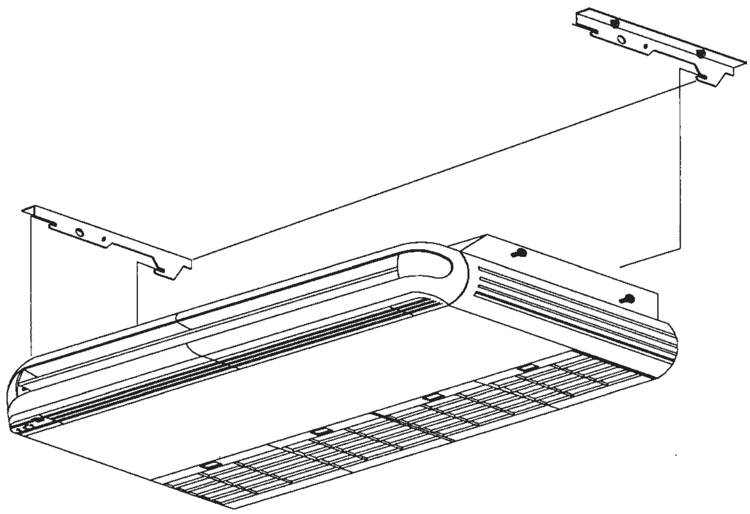


Figure G

Installation - Floor Standing Type

STEP 1
Remove air intake grille, side panel, side close-up and side panel from the unit; see Fig E.

STEP 2
Position the floor support (field supply) as per Fig B. install the unit; see Fig I.

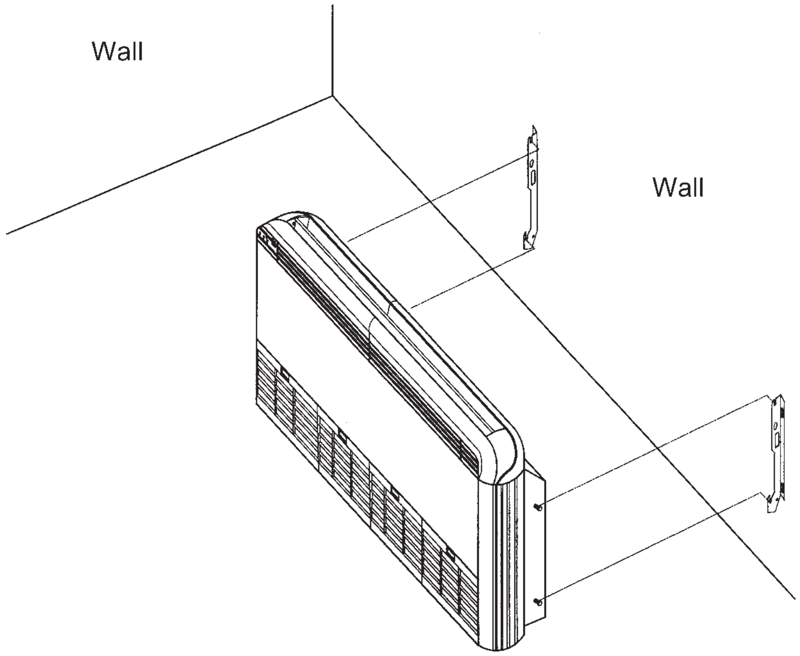


Figure I

STEP 3
Two types of piping and drain pipe connection as Fig J.

PIPING AND DRAIN PIPE INSTALLATION

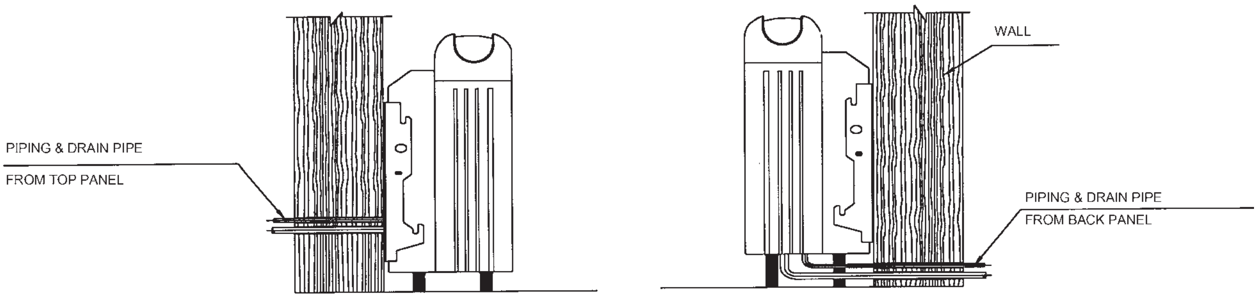
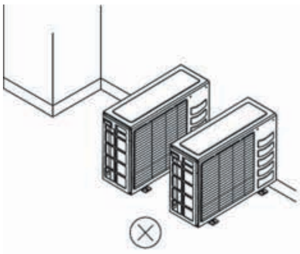


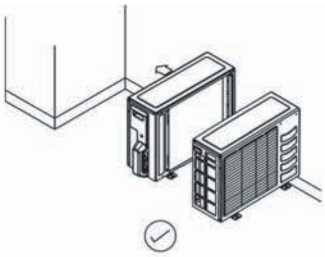
Figure J

(2) Installation of Outdoor Unit

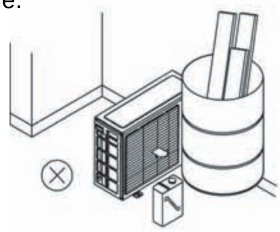
As condensing temperature rises, evaporating temperature rises and cooling capacity drops. In order to achieve maximum cooling capacity, the location selected for outdoor unit should fulfill the following requirements :

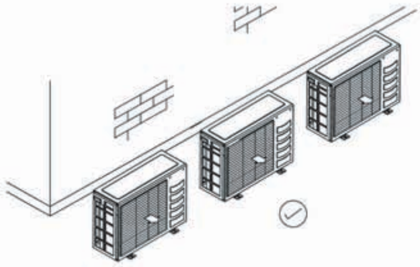
- Install the condensing (outdoor) unit in a way such that hot air distributed by the outdoor condensing unit cannot be drawn in again (as in the case of short circuit of hot discharge air). Allow sufficient space for maintenance around the unit.



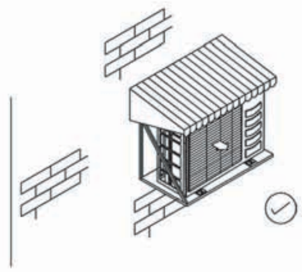


- Ensure that there is no obstruction of air flow into or out of the unit. Remove obstacles which block air intake or discharge.





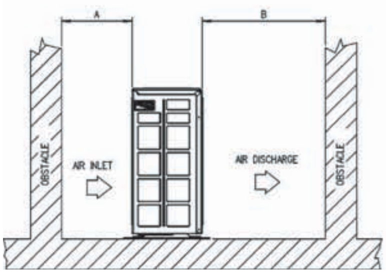
- The location must be well ventilated, so that the unit can draw in and distribute plenty of air thus lowering the condensing temperature.
- A place capable of bearing the weight of the outdoor unit and isolating noise and vibration.
- A place protected from direct sunlight. Otherwise use an awning for protection, if necessary.

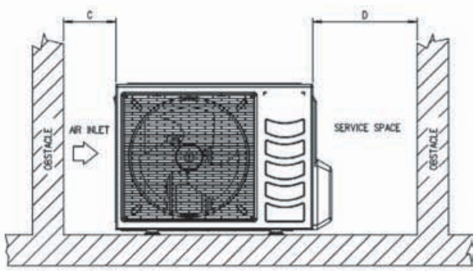


- The location must not be susceptible to dust or oil mist.

Installation Clearance

- Outdoor units must be installed such that there is no short circuit of the hot discharge air or obstruction to smooth air flow. Select the coolest possible place where intake air should not be hotter than the outside temperature (max. 45°C)





ALL MODELS	A	B	C	D
Minimum Distance	300 mm	1000 mm	300 mm	500 mm

CAUTION : If the condensing unit is operated in an atmosphere containing oils(including machine oils), salt(coastal area), sulphide gas(near hot spring, oil refinery plant), such substances may lead to failure of the unit.

(3) Refrigerant Piping

Maximum Pipe Length and Maximum Number of Bends

- When the pipe length becomes too long, both the capacity and reliability drop. As the number of bends increases, system piping resistance to the refrigerant flow increases, thus lowering the cooling capacity, and as the result the font compressor may become defective. Always choose the shortest path and follow the recommendation as tabulated below:

Model	Indoor	020D/DR	025D/DR	030D/DR	
	Outdoor	018 / 020C/CR	025C/CR	028C/CR	030C/CR
Maximum Length, m		15	15	15	45
Maximum Elevation, m		8	8	8	25
Maximum No. of Bends		10	10	10	10

Model	Indoor	040D/DR	050D/DR	062C/CR
	Outdoor	035 / 040C/CR	050C/CR	061C/CR
Maximum Length, m		45	45	35
Maximum Elevation, m		25	25	20
Maximum No. of Bends		10	10	10

Piping Sizes (Flare Connection Type)

Piping sizes are as follows:

R22

Model	MLC 018/020C/CR	MLC 025C/CR	MLC 028C/CR	MLC 030C/CR
Liquid (mm/in)	6.35 / 1/4	9.52 / 3/8	9.52 / 3/8	9.52 / 3/8
Suction (mm/in)	15.88 / 5/8	15.88 / 5/8	15.88 / 5/8	15.88 / 5/8

Model	MLC 035C/CR	MLC 040C/CR	MLC 050C/CR	MLC 061C/CR
Liquid (mm/in)	9.52 / 3/8	9.52 / 3/8	9.52 / 3/8	12.70 / 1/2
Suction (mm/in)	19.05 / 3/4	19.05 / 3/4	19.05 / 3/4	19.05 / 3/4

R410A

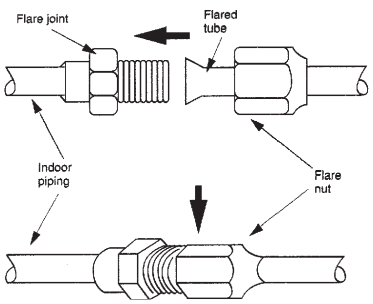
Model	M5LC 020C/CR	M5LC 025C/CR	M5LC 028C/CR	M5LC 035C/CR
Liquid (mm/in)	6.35 / 1/4	6.35 / 1/4	9.52 / 3/8	9.52 / 3/8
Suction (mm/in)	12.70 / 1/2	15.88 / 5/8	15.88 / 5/8	15.88 / 5/8

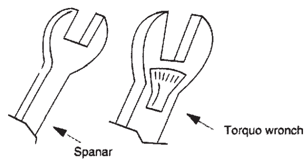
Model	M5LC 040C/CR	M5LC 050C/CR	M5LC 061C/CR
Liquid (mm/in)	9.52 / 3/8	9.52 / 3/8	9.52 / 3/8
Suction (mm/in)	15.88 / 5/8	15.88 / 5/8	19.05 / 3/4

PIPING CONNECTION TO THE UNITS

- Align the center of the piping and tighten the flare nut sufficiently with fingers.
- Finally tighten the flare nut with torque wrench unit the wrench clicks.
- When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

Pipe Size (mm/in)	Torque (Nm)
6.35 (1/4)	18
9.52 (3/8)	42
12.70 (1/2)	55
15.88 (5/8)	65
19.05 (3/4)	78





4) Wiring

ELECTRICAL CONNECTIONS

- Wiring regulations on wire diameters differ from country to country. Please refer to your LOCAL ELECTRICAL CODES for field wiring rules. Be sure that installations comply with the rules and regulations.

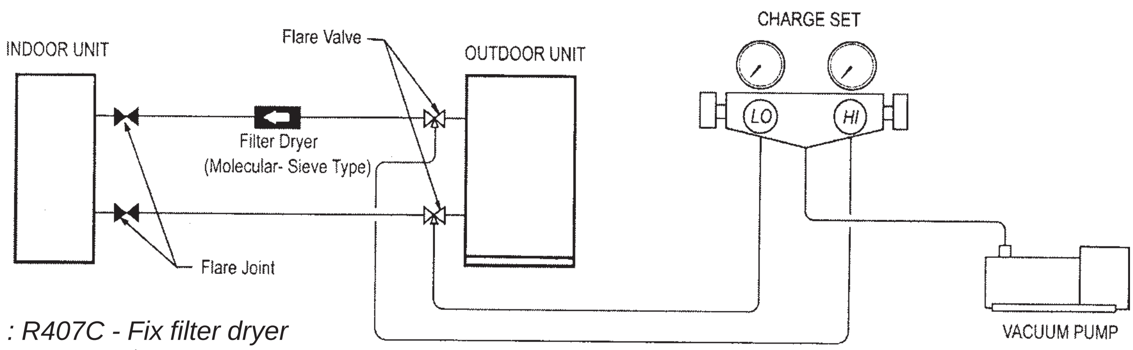
GENERAL PRECAUTIONS

- Ensure that the rated voltage of the unit corresponds to the name plate before carrying out proper wiring according to the wiring diagram.
- Provide a power outlet to be used exclusively for each unit. A power supply disconnects and a circuit breaker for over-current protection should be provided in the exclusive line.
- The unit must be **GROUNDED** to prevent possible hazards due to insulation failures.
- All wiring must be firmly connected.
- All wiring must not touch the hot refrigerant piping, compressor or any moving parts of fan motors.

(5) Vacuuming and Charging

The pre-charged outdoor unit does not need any vacuuming or charging. However once it is connected, the connecting pipe line and the indoor unit need to be vacuumed before releasing the R22/R407C/R410A from the outdoor unit.

1. Open the service port core cap.
2. Connect pressure gauge to the service port.
3. Connect the line to vacuum pump. Open the charging manifold valve and turn the pump on. Vacuum to -0.1 MPa (-760mmHg) or lower. (Evacuation time varies by the pump but averagely in 1 hour).



Note : R407C - Fix filter dryer
R22 - Nil
R410A - Nil

(6) Additional Charge

- The refrigerant charge has already charged into the outdoor unit. For the piping length of 7.6m, additional refrigerant charge after vacuuming is not necessary.
- When the piping length is more than 7.6m, please use the table below (unit in gram).

R22

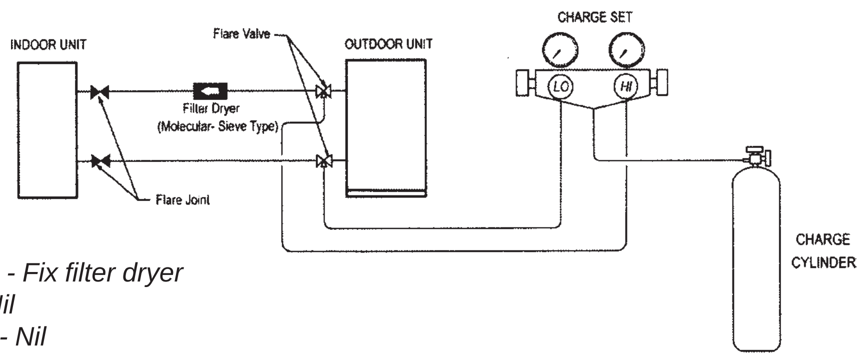
Model	10m	12m	15m	25m	35m	45m
018C/CR	38 / 54	69 / 98	116 / 166	-	-	-
020C/CR	37 / 38	69 / 69	115 / 116	-	-	-
025C/CR	95 / 132	173 / 243	292 / 408	-	-	-
028C/CR	94 / 133	173 / 244	291 / 411	-	-	-
030C/CR	133 / 133	243 / 243	409 / 409	962 / 961	1515 / 1514	2068 / 2067
035C/CR	130 / 136	238 / 248	400 / 418	940 / 983	1481 / 1547	2021 / 2112
040C/CR	134 / 136	245 / 248	412 / 418	968 / 983	1525 / 1547	2081 / 2112
050C/CR	130 / 134	238 / 245	400 / 412	942 / 968	1483 / 1525	2024 / 2081
061C/CR	245 / 243	450 / 446	756 / 751	1778 / 1765	2799 / 2780	-

R410A

Model	10m	12m	15m	25m	35m	45m
035C/CR	63 / 100	116 / 182	195 / 307	457 / 721	720 / 1136	983 / 1551
040C/CR	61 / 97	112 / 178	189 / 299	445 / 703	700 / 1107	956 / 1511
050C/CR	50 / 87	92 / 159	155 / 267	363 / 628	572 / 989	781 / 1350
061C/CR	94 / 163	173 / 298	290 / 502	682 / 1179	1075 / 1857	-

The additional refrigerant charge amount recommended is a guideline for longer piping application. The actual charge required may be different from the guideline due to different application and variation in site conditions.

Diagram shows typical charging method.



Note : R407C - Fix filter dryer
R22 - Nil
R410A - Nil

Special Precautions When Dealing with Refrigerant R410A Unit

1) What is New Refrigerant R410A?
R410A is a new HFC refrigerant which does not damage the ozone layer. The working pressure of this new refrigerant is 1.6 times higher than conventional refrigerant (R22), thus proper installation / servicing is essential.

2) Components
Mixture of composition by weight : R32(50%) and R125(50%)

3) Characteristic
- R410A liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. **DO NOT** add new refrigerant to leaked system. It is recommended that the system be evacuated thoroughly before recharging with R410A.
- When refrigerant R410A is used, the composition will differ depending on whether it is in gaseous or liquid phase.
  Hence when charging R410A, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R410A is being charged into the system.
- POE oil is used as lubricant for R410A compressor, which is different from the mineral oil used for R22 compressor.
  Extra precaution must be taken to avoid exposing the R410A system to moist air.

4) Check List before Installation / Servicing
- Tubing
  Refrigerant R410A is more easily affected by dust or moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation
- Compressor oil
  No additional charge of compressor oil is permitted.
- Refrigerant
  No other refrigerant other that R410A
- Tools (size of service port is different from R22 system)
  Tools specifically for R410A only (must not be used for R22 or other refrigerant)
  i) Gauge manifold and charging hose
  ii) Gas leak detector
  iii) Refrigerant cylinder/charging cylinder
  iv) Vacuum pump c/w adapter
  v) Flare tools
  vi) Refrigerant recovery machine

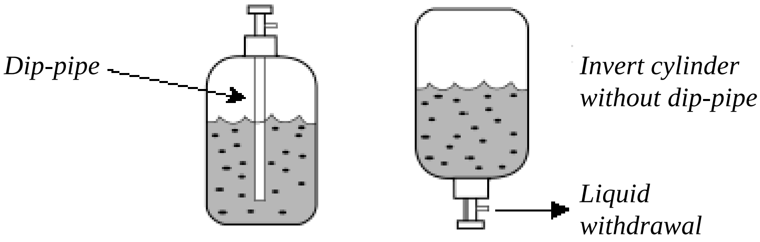
5) Handling and Installation Guidelines
Like R22 systems, the handling and installation of R410A system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to its hydroscopic POE oil, additional precautions must be taken to ensure optimum and trouble-free system operation.

a) During installation or servicing, avoid prolong exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.

b) Ensure that the compressor is not expose to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Removed the seal-plugs only when the compressor is about to be brazed.

c) The system should be thoroughly vacuumed to 1.0 Pa (700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.

d) When charging R410A, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R410A is being delivered into the system. The liquid composition can be different from the vapor composition.



e) Normally, the R410A cylinder or can is being equipped with a dip-pipe for liquid withdrawal. However, if the dip-pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.

(6) Overall Checking

- Ensure the following, in particular:
  1. The unit is mounted solidly and rigid in position.
  2. Piping and connections are leak proof after charging.
  3. Proper wiring has been done.
- Drainage check – pour some water into drain pan.
- Test run
  1. Conduct a test run after water drainage test and gas leakage test.
  2. Watch out for the following:
     (a) Is the electric plug firmly inserted into the socket?
     (b) Is there any abnormal sound from the unit?
     (c) Is there any abnormal vibration with regard to the unit itself or piping?
     (d) Is there smooth drainage of water?
- Check that:
  1. Outdoor fan is running, with warm air blowing off the outdoor unit (cooling cycle).
  2. Indoor blower is running and discharge cool air (cooling cycle).
  3. Suction (low side) pressure is as per recommendations.
  4. The remote controller has incorporated a 3 minutes delay in the circuit. Thus, it requires about 3 minutes before the outdoor unit can start up.

(7) Standard Operating Condition

Cooling only Unit

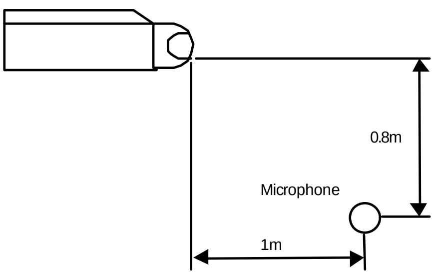
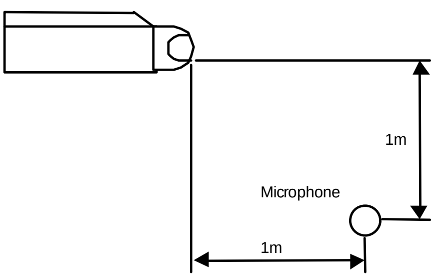
Temperature	T_s ˚C / ˚F	T_h ˚C / ˚F
Minimum Indoor Temperature	19.4 / 66.9	13.9 / 57.0
Maximum Indoor Temperature	26.7 / 80.1	19.4 / 66.9
Minimum Outdoor Temperature	19.4 / 66.9	13.9 / 57.0
Maximum Outdoor Temperature	46 / 114.8	24 / 75.2

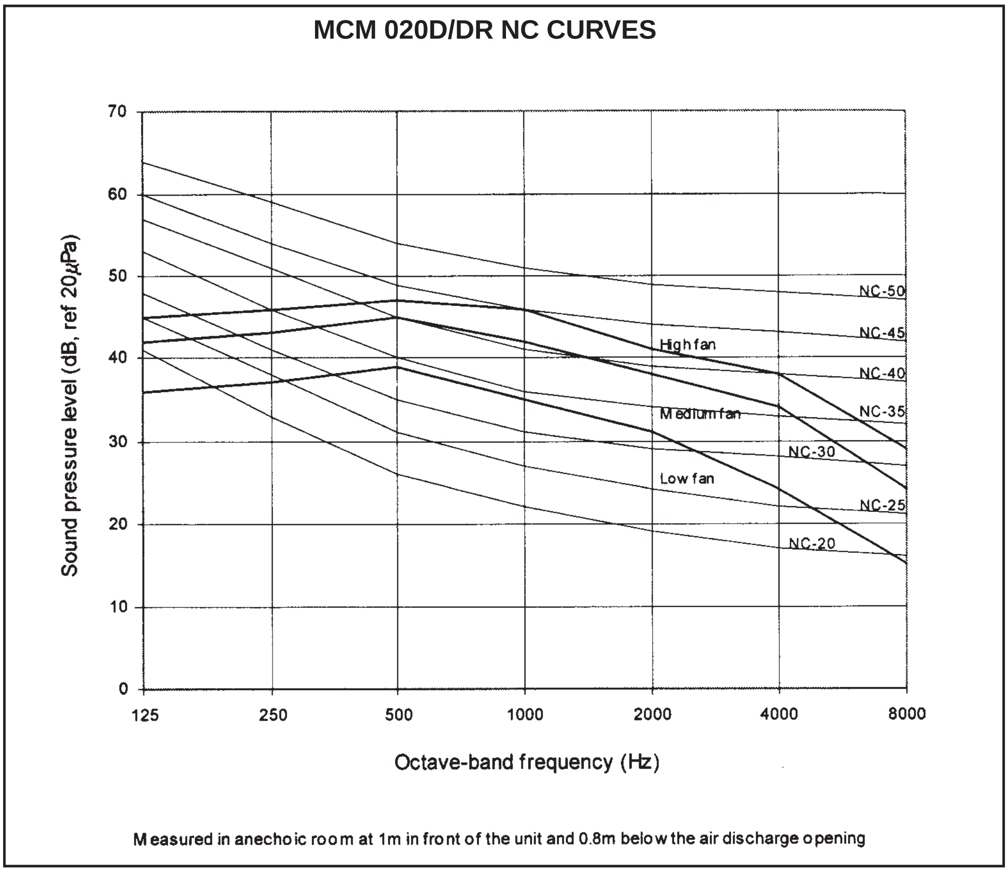
Heat Pump Unit

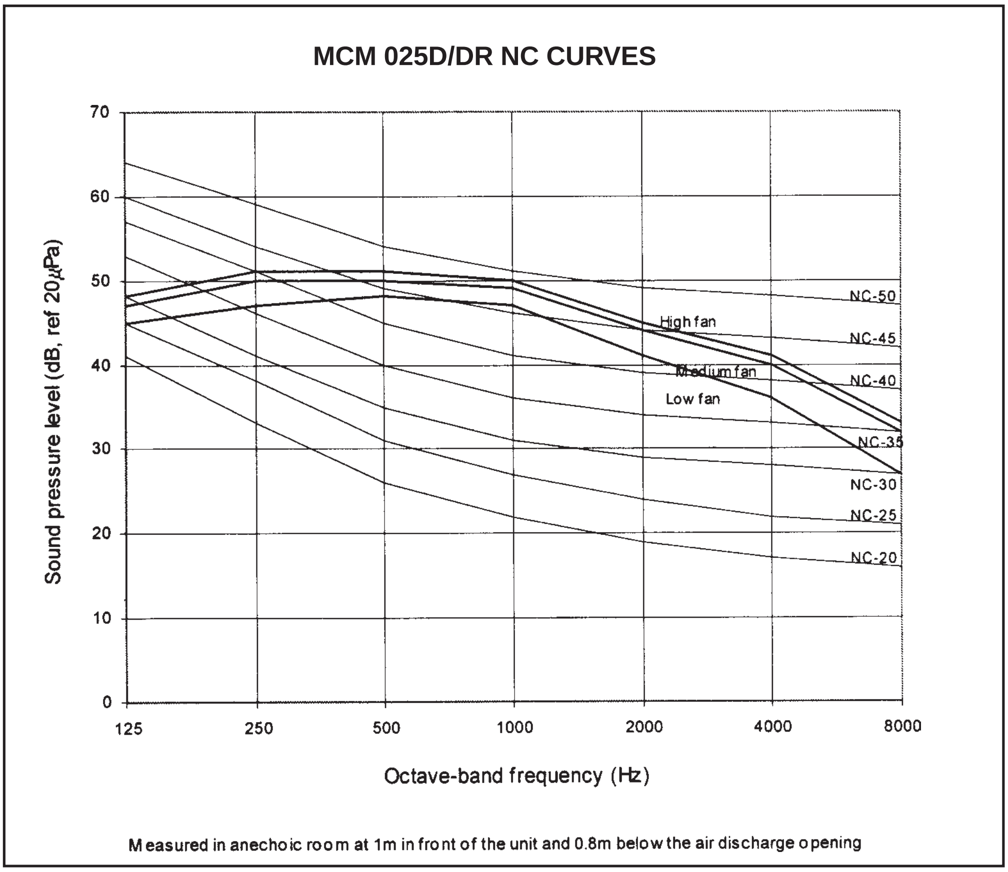
Temperature	T_s ˚C / ˚F	T_h ˚C / ˚F
Minimum Indoor Temperature	10 / 50	-
Maximum Indoor Temperature	26.7 / 80.1	-
Minimum Outdoor Temperature	-8 / 17.6	-9 / 15.8
Maximum Outdoor Temperature	24 / 75.2	18 / 64.4

Sound Data

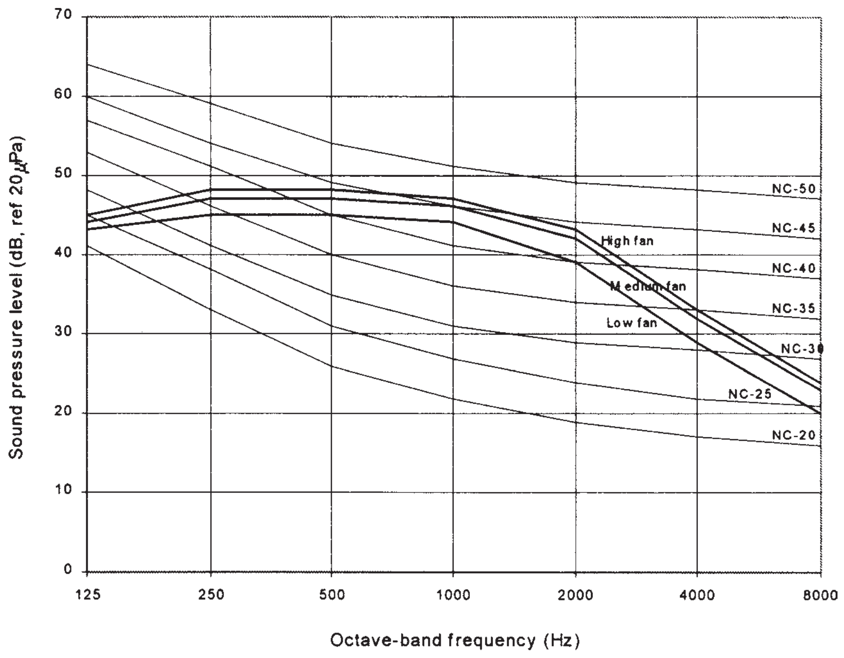
Model	Speed	1/1 Octave A-weighted Sound Pressure (dBA), ref 20μPa							Overall	Noise
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	A(dBA)	Criteria
MCM 020D/DR	High	45	46	47	46	41	38	29	50	45
	Medium	42	43	45	42	38	34	24	47	41
	Low	36	37	39	35	31	24	15	40	34
MCM 025D/DR	High	48	51	51	50	45	41	33	54	49
	Medium	47	50	50	49	44	40	32	53	48
	Low	45	47	48	47	41	36	27	50	46
MCM 030D/DR	High	45	48	48	47	43	33	24	51	46
	Medium	44	47	47	46	42	32	23	50	45
	Low	43	45	45	44	39	29	20	48	43
MCM / M5CM 040D/DR	High	51	53	51	50	47	37	30	54	49
	Medium	48	51	50	49	46	36	28	53	48
	Low	46	50	49	48	44	35	27	52	47
MCM / M5CM 050D/DR	High	51	53	51	50	47	37	30	54	49
	Medium	48	51	50	49	46	36	28	53	48
	Low	46	50	49	48	44	35	27	52	47
MCM / M5CM 062C/CR	High	34	45	49	52	49	44	37	56	51
	Medium	32	43	46	49	46	41	33	53	48
	Low	26	36	40	42	38	32	24	46	41

Model	Measuring location
MCM 020D/DR MCM 025D/DR	 Standard : JIS C 9612
MCM 030D/DR MCM / M5CM 040D/DR MCM / M5CM 050D/DR MCM / M5CM 062C/CR	 Standard : JIS B 8615


MCM 020D/DR NC CURVES
Sound pressure level (dB, ref 20μPa)
Octave-band frequency (Hz)
70
60
50
40
30
20
10
0
125
250
500
1000
2000
4000
8000
High fan
Medium fan
Low fan
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
Measured in anechoic room at 1m in front of the unit and 0.8m below the air discharge opening

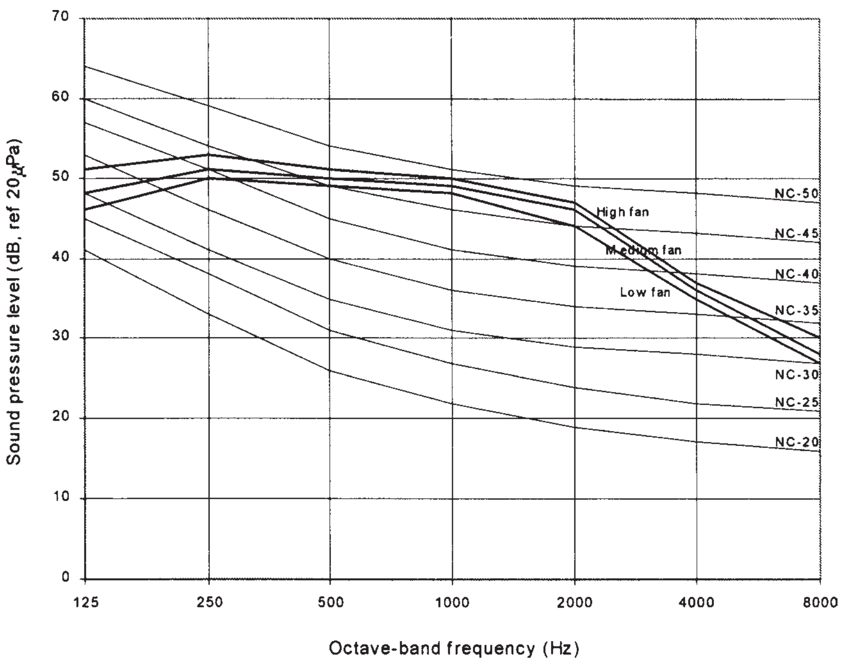

MCM 025D/DR NC CURVES
Sound pressure level (dB, ref 20μPa)
Octave-band frequency (Hz)
70
60
50
40
30
20
10
0
125
250
500
1000
2000
4000
8000
High fan
Medium fan
Low fan
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
Measured in anechoic room at 1m in front of the unit and 0.8m below the air discharge opening

MCM30D/DR NC CURVES



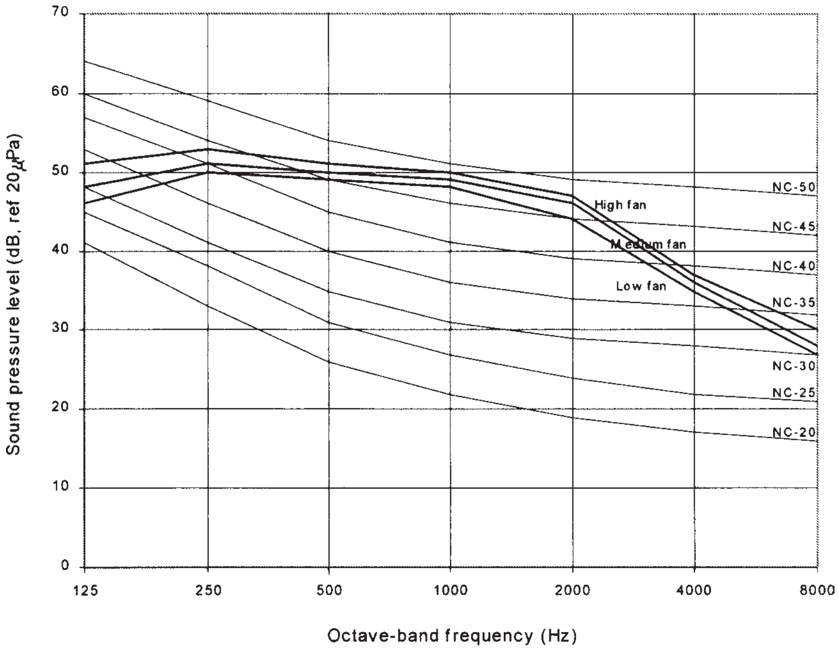
Measured in anechoic room at 1m in front of the unit and 1m below the air discharge opening

MCM / M5CM 040D/DR NC CURVES



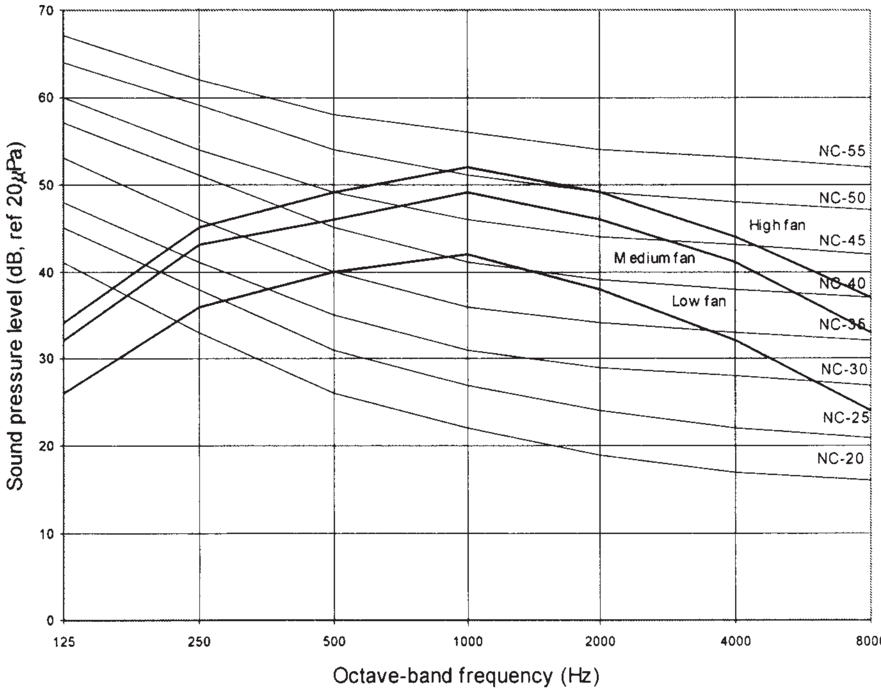
Measured in anechoic room at 1m in front of the unit and 1m below the air discharge opening

MCM / M5CM 050D/DR NC CURVES



Measured in anechoic room at 1m in front of the unit and 1m below the air discharge opening

MCM / M5CM 062C/CR NC CURVES



Measured in anechoic room at 1m in front of the unit and 1m below the air discharge

Engineering and Physical Data

General Data - Cooling only (R22)

MODEL					INDOOR UNIT	MCM 020D	
					OUTDOOR UNIT	MLC 018C	MLC 020C
NOMINAL CAPACITY					Btu/h	18000	19000
					W	5280	5570
NOMINAL TOTAL INPUT POWER					W	1860	1849
NOMINAL RUNNING CURRENT					A	8.4	8.1
POWER SOURCE					V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER					W/W	2.84	3.01
REFRIGERANT TYPE						R22	
REFRIGERANT CONTROL (EXPANSION DEVICE)						OUTDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE				AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION				WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH			l/s / CFM	264 / 560	
		MEDIUM			l/s / CFM	241 / 510	
		LOW			l/s / CFM	189 / 400	
	EXTERNAL STATIC PRESSURE (H/M/L)				mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)				dBA	50 / 47 / 40	
	UNIT DIMENSION	HEIGHT			mm/in	214 / 8.4	
		WIDTH			mm/in	1214 / 47.8	
		DEPTH			mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT			mm/in	301 / 11.9	
		WIDTH			mm/in	1311 / 51.6	
		DEPTH			mm/in	760 / 29.9	
	UNIT WEIGHT				kg/lb	43 / 95	
	CONDENSATE DRAIN SIZE				mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW				l/s / CFM	614 / 1300	
	SOUND PRESSURE LEVEL				dBA	51	
	UNIT DIMENSION	HEIGHT			mm/in	648 / 25.5	
		WIDTH			mm/in	855 / 33.7	
		DEPTH			mm/in	328 / 12.9	
	PACKING DIMENSION	HEIGHT			mm/in	710 / 28.0	
		WIDTH			mm/in	990 / 39.0	
		DEPTH			mm/in	415 / 16.3	
	UNIT WEIGHT				kg/lb	58 / 128	59 / 130
	PIPE CONNECTION	TYPE				FLARE VALVE	
		SIZE	LIQUID		mm/in	6.4 / 1/4	
			GAS		mm/in	15.9 / 5/8	
REFRIGERANT CHARGE					kg/lb	0.85 / 1.87	1.35 / 2.98

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 0.8m BELOW THE UNIT.

General Data - Cooling only (R22)

MODEL		INDOOR UNIT			MCM 025D
		OUTDOOR UNIT			MLC 025C
NOMINAL CAPACITY				Btu/h	23500
				W	6890
NOMINAL TOTAL INPUT POWER				W	2574
NOMINAL RUNNING CURRENT				A	12.1
POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50
EER				W/W	2.67
REFRIGERANT TYPE					R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)
		OPERATION			WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL
	AIR FLOW	HIGH		l/s / CFM	297 / 630
		MEDIUM		l/s / CFM	274 / 580
		LOW		l/s / CFM	245 / 500
	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0
	SOUND PRESSURE LEVEL (H/M/L)			dBA	54 / 53 / 50
	UNIT DIMENSION	HEIGHT		mm/in	214 / 8.4
		WIDTH		mm/in	1214 / 47.8
		DEPTH		mm/in	670 / 26.3
	PACKING DIMENSION	HEIGHT		mm/in	301 / 11.9
		WIDTH		mm/in	1311 / 51.6
		DEPTH		mm/in	760 / 29.9
	UNIT WEIGHT			kg/lb	43 / 95
	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4
OUTDOOR UNIT	AIR FLOW			l/s / CFM	755 / 1600
	SOUND PRESSURE LEVEL			dBA	52
	UNIT DIMENSION	HEIGHT		mm/in	750 / 29.5
		WIDTH		mm/in	855 / 33.7
		DEPTH		mm/in	328 / 12.9
	PACKING DIMENSION	HEIGHT		mm/in	810 / 31.9
		WIDTH		mm/in	990 / 39.0
		DEPTH		mm/in	415 / 16.3
	UNIT WEIGHT			kg/lb	62 / 137
	PIPE CONNECTION	TYPE			FLARE VALVE
		SIZE	LIQUID	mm/in	9.5 / 3/8
			GAS	mm/in	15.9 / 5/8
REFRIGERANT CHARGE				kg/lb	1.50 / 3.31

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 0.8m BELOW THE UNIT.

General Data - Cooling only (R22)

MODEL					MCM 030D	
	INDOOR UNIT				MCM 030D	
	OUTDOOR UNIT				MLC 028C	MLC 030C
NOMINAL CAPACITY - 1Ø / <3Ø>				Btu/h	26500	29000 / <29000>
				W	7770	8490 / <8490>
NOMINAL TOTAL INPUT POWER - 1Ø / <3Ø>				W	2894	2600 / <2660>
NOMINAL RUNNING CURRENT - 1Ø / <3Ø>				A	14.3	12.1 / <3.8>
POWER SOURCE - 1Ø / <3Ø>				V/Ph/Hz	220 - 240 / 1 / 50 <380 - 415 / 3 / 50>	
EER - 1Ø / <3Ø>				W/W	2.68	3.27 / <3.23>
REFRIGERANT TYPE					R22	
REFRIGERANT CONTROL (EXPANSION DEVICE)					INDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION			WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH		l/s / CFM	326 / 690	
		MEDIUM		l/s / CFM	297 / 630	
		LOW		l/s / CFM	255 / 540	
	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)			dBA	51 / 50 / 48	
	UNIT DIMENSION	HEIGHT		mm/in	249 / 9.8	
		WIDTH		mm/in	1214 / 47.8	
		DEPTH		mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT		mm/in	345 / 13.6	
		WIDTH		mm/in	1361 / 53.5	
		DEPTH		mm/in	760 / 29.9	
	UNIT WEIGHT			kg/lb	45 / 99	
	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW			l/s / CFM	741 / 1570	1605 / 3400
	SOUND PRESSURE LEVEL			dBA	54	58
	UNIT DIMENSION	HEIGHT		mm/in	750 / 29.5	850 / 33.46
		WIDTH		mm/in	855 / 33.7	1030 / 40.55
		DEPTH		mm/in	328 / 12.9	400 / 15.75
	PACKING DIMENSION	HEIGHT		mm/in	810 / 31.9	1000 / 39.37
		WIDTH		mm/in	990 / 39.0	1200 / 47.24
		DEPTH		mm/in	415 / 16.3	560 / 22.05
	UNIT WEIGHT			kg/lb	68 / 150	95 / 209
	PIPE CONNECTION	TYPE			FLARE VALVE	
		SIZE	LIQUID	mm/in	9.5 / 3/8	9.5 / 3/8
			GAS	mm/in	15.9 / 5/8	15.9 / 5/8
REFRIGERANT CHARGE				kg/lb	1.40 / 3.09	1.60 / 3.53

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 0.8m BELOW THE UNIT.

General Data - Cooling only (R22)

MODEL		INDOOR UNIT		MCM 040D	
		OUTDOOR UNIT		MLC 035C	MLC 040C
NOMINAL CAPACITY - 1Ø / <3Ø>			Btu/h	34000	39000 / <39000>
			W	9960	11420 / <11420>
NOMINAL TOTAL INPUT POWER - 1Ø / <3Ø>			W	3120	3250 / <3220>
NOMINAL RUNNING CURRENT - 1Ø / <3Ø>			A	15.2	17.4 / <5.7>
POWER SOURCE - 1Ø / <3Ø>			V/Ph/Hz	220 - 240 / 1 / 50 <380 - 415 / 3 / 50>	
EER - 1Ø / <3Ø>			W/W	3.19	3.51 / <3.55>
REFRIGERANT TYPE				R22	
REFRIGERANT CONTROL (EXPANSION DEVICE)				INDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION		WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH	l/s / CFM	477 / 1010	
		MEDIUM	l/s / CFM	420 / 890	
		LOW	l/s / CFM	368 / 780	
	EXTERNAL STATIC PRESSURE (H/M/L)		mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)		dBA	54 / 53 / 52	
	UNIT DIMENSION	HEIGHT	mm/in	249 / 9.8	
		WIDTH	mm/in	1714 / 67.4	
		DEPTH	mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT	mm/in	345 / 13.6	
		WIDTH	mm/in	1816 / 71.4	
		DEPTH	mm/in	760 / 29.9	
	UNIT WEIGHT		kg/lb	70 / 154	
	CONDENSATE DRAIN SIZE		mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW		l/s / CFM	1605 / 3400	1605 / 3400
	SOUND PRESSURE LEVEL		dBA	58	58
	UNIT DIMENSION	HEIGHT	mm/in	850 / 33.5	
		WIDTH	mm/in	1030 / 40.6	
		DEPTH	mm/in	400 / 15.8	
	PACKING DIMENSION	HEIGHT	mm/in	1000 / 39.4	
		WIDTH	mm/in	1200 / 47.2	
		DEPTH	mm/in	560 / 22.1	
	UNIT WEIGHT		kg/lb	95 / 209	100 / 221
	PIPE CONNECTION	TYPE		FLARE VALVE	
		SIZE - LIQUID	mm/in	9.5 / 3/8	
		SIZE - GAS	mm/in	19.1 / 3/4	
REFRIGERANT CHARGE			kg/lb	2.00 / 4.41	2.40 / 5.29

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Cooling only (R22)

MODEL					INDOOR UNIT	MCM 050D	MCM 062C
					OUTDOOR UNIT	MLC 050C	MLC 061C
NOMINAL CAPACITY					Btu/h	49000	56000
					W	14350	16410
NOMINAL TOTAL INPUT POWER					W	4590	5593
NOMINAL RUNNING CURRENT					A	8.1	9.4
POWER SOURCE					V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
EER					W/W	3.13	2.93
REFRIGERANT TYPE						R22	
REFRIGERANT CONTROL (EXPANSION DEVICE)						INDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE				AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION				WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH			l/s / CFM	491 / 1040	731 / 1550
		MEDIUM			l/s / CFM	448 / 950	623 / 1320
		LOW			l/s / CFM	387 / 820	472 / 1000
	EXTERNAL STATIC PRESSURE (H/M/L)				mmAq	0	0
	SOUND PRESSURE LEVEL (H/M/L)				dBA	54 / 53 / 52	56 / 53 / 46
	UNIT DIMENSION	HEIGHT			mm/in	249 / 9.8	285 / 11.2
		WIDTH			mm/in	1714 / 67.4	1903 / 74.9
		DEPTH			mm/in	670 / 26.3	680 / 26.8
	PACKING DIMENSION	HEIGHT			mm/in	345 / 13.6	368 / 14.5
		WIDTH			mm/in	1816 / 71.4	1984 / 78.1
		DEPTH			mm/in	760 / 29.9	760 / 29.9
	UNIT WEIGHT				kg/lb	70 / 154	85 / 187
	CONDENSATE DRAIN SIZE				mm/in	19.05 / 3/4	19.05 / 3/4
OUTDOOR UNIT	AIR FLOW				l/s / CFM	1605 / 3400	1793 / 3800
	SOUND PRESSURE LEVEL				dBA	58	61
	UNIT DIMENSION	HEIGHT			mm/in	850 / 33.5	850 / 33.5
		WIDTH			mm/in	1030 / 40.6	1030 / 40.6
		DEPTH			mm/in	400 / 15.8	460 / 18.1
	PACKING DIMENSION	HEIGHT			mm/in	1000 / 39.4	1016 / 40.0
		WIDTH			mm/in	1200 / 47.2	1178 / 46.4
		DEPTH			mm/in	560 / 22.1	602 / 23.7
	UNIT WEIGHT				kg/lb	105 / 232	108 / 238
	PIPE CONNECTION	TYPE				FLARE VALVE	
		SIZE	LIQUID		mm/in	9.5 / 3/8	12.7 / 1/2
			GAS		mm/in	19.1 / 3/4	19.1 / 3/4
REFRIGERANT CHARGE					kg/lb	2.80 / 6.17	5.00 / 11.02

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat Pump (R22)

MODEL					
	INDOOR UNIT			MCM 020DR	
	OUTDOOR UNIT			MLC 018CR	MLC 020CR
NOMINAL COOLING CAPACITY			Btu/h	18000	19000
			W	5280	5570
NOMINAL HEATING CAPACITY			Btu/h	18500	19500
			W	5420	5720
NOMINAL TOTAL INPUT POWER (COOLING)			W	1860	1849
NOMINAL TOTAL INPUT POWER (HEATING)			W	1700	1799
NOMINAL RUNNING CURRENT (COOLING)			A	8.4	8.1
NOMINAL RUNNING CURRENT (HEATING)			A	7.6	7.9
POWER SOURCE			V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
EER			W/W	2.84	3.01
COP			W/W	3.19	3.18
REFRIGERANT TYPE				R22	
REFRIGERANT CONTROL (EXPANSION DEVICE)				OUTDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION		WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH	l/s / CFM	264 / 560	
		MEDIUM	l/s / CFM	241 / 510	
		LOW	l/s / CFM	189 / 400	
	EXTERNAL STATIC PRESSURE (H/M/L)		mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)		dBA	50 / 47 / 40	
	UNIT DIMENSION	HEIGHT	mm/in	214 / 8.42	
		WIDTH	mm/in	1214 / 47.8	
		DEPTH	mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT	mm/in	301 / 11.9	
		WIDTH	mm/in	1311 / 51.6	
		DEPTH	mm/in	760 / 29.9	
	UNIT WEIGHT		kg/lb	43 / 95	
	CONDENSATE DRAIN SIZE		mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW		l/s / CFM	614 / 1300	
	SOUND PRESSURE LEVEL		dBA	51	
	UNIT DIMENSION	HEIGHT	mm/in	648 / 25.5	
		WIDTH	mm/in	855 / 33.7	
		DEPTH	mm/in	328 / 12.9	
	PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0	
		WIDTH	mm/in	990 / 39.0	
		DEPTH	mm/in	415 / 16.3	
	UNIT WEIGHT		kg/lb	58 / 128	59 / 130
	PIPE CONNECTION	TYPE		FLARE VALVE	
		SIZE LIQUID	mm/in	6.4 / 1/4	
		SIZE GAS	mm/in	15.9 / 5/8	
REFRIGERANT CHARGE			kg/lb	0.85 / 1.87	1.35 / 2.98

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 0.8m BELOW THE UNIT.

General Data - Heat Pump (R22)

MODEL		INDOOR UNIT			MCM 025DR
		OUTDOOR UNIT			MLC 025CR
NOMINAL COOLING CAPACITY				Btu/h	23500
				W	6890
NOMINAL HEATING CAPACITY				Btu/h	24000
				W	7030
NOMINAL TOTAL INPUT POWER (COOLING)				W	2574
NOMINAL TOTAL INPUT POWER (HEATING)				W	2494
NOMINAL RUNNING CURRENT (COOLING)				A	12.1
NOMINAL RUNNING CURRENT (HEATING)				A	11.7
POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50
EER				W/W	2.67
COP				W/W	2.81
REFRIGERANT TYPE					R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)
		OPERATION			WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL
	AIR FLOW	HIGH		l/s / CFM	297 / 630
		MEDIUM		l/s / CFM	274 / 580
		LOW		l/s / CFM	245 / 520
	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0
	SOUND PRESSURE LEVEL (H/M/L)			dBA	54 / 53 / 50
	UNIT DIMENSION	HEIGHT		mm/in	214 / 8.4
		WIDTH		mm/in	1214 / 47.8
		DEPTH		mm/in	670 / 26.3
	PACKING DIMENSION	HEIGHT		mm/in	301 / 11.9
		WIDTH		mm/in	1311 / 51.6
		DEPTH		mm/in	760 / 29.9
	UNIT WEIGHT			kg/lb	43 / 95
	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4
OUTDOOR UNIT	AIR FLOW			l/s / CFM	755 / 1600
	SOUND PRESSURE LEVEL			dBA	52
	UNIT DIMENSION	HEIGHT		mm/in	750 / 29.5
		WIDTH		mm/in	855 / 33.7
		DEPTH		mm/in	328 / 12.9
	PACKING DIMENSION	HEIGHT		mm/in	810 / 31.9
		WIDTH		mm/in	990 / 39.0
		DEPTH		mm/in	415 / 16.3
	UNIT WEIGHT			kg/lb	62 / 137
	PIPE CONNECTION	TYPE			FLARE VALVE
		SIZE	LIQUID	mm/in	9.5 / 3/8
			GAS	mm/in	15.9 / 5/8
REFRIGERANT CHARGE				kg/lb	1.50 / 3.31

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 0.8m BELOW THE UNIT.

General Data - Heat Pump (R22)

MODEL				INDOOR UNIT	MCM 030DR	
				OUTDOOR UNIT	MLC 028CR	MLC 030CR
NOMINAL COOLING CAPACITY - 1Ø / <3Ø>				Btu/h	26500	30000 / <30000>
				W	7770	8790 / <8790>
NOMINAL HEATING CAPACITY - 1Ø / <3Ø>				Btu/h	27000	32000 / <32000>
				W	7910	9380 / <9380>
NOMINAL TOTAL INPUT POWER (COOLING) -1Ø / <3Ø>				W	2894	2881 / <2861>
NOMINAL TOTAL INPUT POWER (HEATING) - 1Ø / <3Ø>				W	2674	2921 / <2901>
NOMINAL RUNNING CURRENT (COOLING) - 1Ø / <3Ø>				A	14.3	13.8 / <5.7>
NOMINAL RUNNING CURRENT (HEATING) - 1Ø / <3Ø>				A	13.6	14 / <5.9>
POWER SOURCE - 1Ø / <3Ø>				V/Ph/Hz	220 - 240 / 1 / 50 <380 - 415 / 3 / 50>	
EER - 1Ø / <3Ø>				W/W	2.68	3.02 / <3.07>
COP - 1Ø / <3Ø>				W/W	2.96	3.21 / <3.23>
REFRIGERANT TYPE					R22	R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	OUTDOOR CAP. TUBE + TXV
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION			WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH		l/s / CFM	326 / 690	
		MEDIUM		l/s / CFM	297 / 630	
		LOW		l/s / CFM	255 / 540	
	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)			dBA	51 / 50 / 48	
	UNIT DIMENSION	HEIGHT		mm/in	249 / 9.8	
		WIDTH		mm/in	1214 / 47.8	
		DEPTH		mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT		mm/in	345 / 13.6	
		WIDTH		mm/in	1361 / 53.5	
		DEPTH		mm/in	760 / 29.9	
	UNIT WEIGHT			kg/lb	45 / 99	
	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW			l/s / CFM	741 / 1570	1605 / 3400
	SOUND PRESSURE LEVEL			dBA	54	58
	UNIT DIMENSION	HEIGHT		mm/in	750 / 29.5	850 / 33.5
		WIDTH		mm/in	855 / 33.7	1030 / 40.6
		DEPTH		mm/in	328 / 12.9	400 / 15.8
	PACKING DIMENSION	HEIGHT		mm/in	810 / 31.9	1000 / 39.4
		WIDTH		mm/in	990 / 39.0	1200 / 47.2
		DEPTH		mm/in	415 / 16.3	560 / 22.1
	UNIT WEIGHT			kg/lb	68 / 150	95 / 209
	PIPE CONNECTION	TYPE			FLARE VALVE	
		SIZE	LIQUID	mm/in	9.5 / 3/8	9.5 / 3/8
			GAS	mm/in	15.9 / 5/8	15.9 / 5/8
REFRIGERANT CHARGE				kg/lb	2.18 / 4.81	2.15 / 4.74

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat Pump (R22)

MODEL		INDOOR UNIT		MCM 040DR	
		OUTDOOR UNIT		MLC 035CR	MLC 040CR
NOMINAL COOLING CAPACITY - 1Ø / <3Ø>			Btu/h	34000	39000 / <39000>
			W	9960	11420 / <11420>
NOMINAL HEATING CAPACITY - 1Ø / <3Ø>			Btu/h	35000	41000 / <41000>
			W	10260	12020 / <12020>
NOMINAL TOTAL INPUT POWER (COOLING) - 1Ø / <3Ø>			W	2980	3383 / <3353>
NOMINAL TOTAL INPUT POWER (HEATING) - 1Ø / <3Ø>			W	2980	3263 / <3233>
NOMINAL RUNNING CURRENT (COOLING) - 1Ø / <3Ø>			A	15.2	16.5 / <5.9>
NOMINAL RUNNING CURRENT (HEATING) - 1Ø / <3Ø>			A	15.2	15.9 / <5.3>
POWER SOURCE - 1Ø / <3Ø>			V/Ph/Hz	220 - 240 / 1 / 50 <380 - 415 / 3 / 50>	
EER - 1Ø / <3Ø>			W/W	3.34	3.38 / <3.41>
COP - 1Ø / <3Ø>			W/W	3.44	3.68 / <3.72>
REFRIGERANT TYPE				R22	
REFRIGERANT CONTROL (EXPANSION DEVICE)				OUTDOOR CAP. TUBE + TXV	
INDOOR UNIT	CONTROL	AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION		WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH	l/s / CFM	477 / 1010	
		MEDIUM	l/s / CFM	420 / 890	
		LOW	l/s / CFM	368 / 780	
	EXTERNAL STATIC PRESSURE (H/M/L)		mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)		dBA	54 / 53 / 52	
	UNIT DIMENSION	HEIGHT	mm/in	249 / 9.8	
		WIDTH	mm/in	1714 / 67.4	
		DEPTH	mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT	mm/in	345 / 13.6	
		WIDTH	mm/in	1816 / 71.4	
		DEPTH	mm/in	760 / 29.9	
	UNIT WEIGHT		kg/lb	70 / 154	
	CONDENSATE DRAIN SIZE		mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW		l/s / CFM	1605 / 3400	
	SOUND PRESSURE LEVEL		dBA	58	
	UNIT DIMENSION	HEIGHT	mm/in	850 / 33.5	
		WIDTH	mm/in	1030 / 40.6	
		DEPTH	mm/in	400 / 15.8	
	PACKING DIMENSION	HEIGHT	mm/in	1000 / 39.4	
		WIDTH	mm/in	1200 / 47.2	
		DEPTH	mm/in	560 / 22.1	
	UNIT WEIGHT		kg/lb	95 / 209	100 / 221
	PIPE CONNECTION	TYPE		FLARE VALVE	
		SIZE LIQUID	mm/in	9.5 / 3/8	
		SIZE GAS	mm/in	19.1 / 3/4	
REFRIGERANT CHARGE			kg/lb	2.60 / 5.73	2.60 / 5.73

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat Pump (R22)

MODEL			INDOOR UNIT		MCM 050DR	MCM 062CR
			OUTDOOR UNIT		MLC 050CR	MLC 061CR
NOMINAL COOLING CAPACITY				Btu/h	48000	56000
				W	14067	16410
NOMINAL HEATING CAPACITY				Btu/h	48000	56000
				W	14067	16410
NOMINAL TOTAL INPUT POWER (COOLING)				W	4491	5593
NOMINAL TOTAL INPUT POWER (HEATING)				W	4081	4551
NOMINAL RUNNING CURRENT (COOLING)				A	8.3	9.4
NOMINAL RUNNING CURRENT (HEATING)				A	6.2	8.1
POWER SOURCE				V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
EER				W/W	3.13	2.93
COP				W/W	3.45	3.61
REFRIGERANT TYPE					R22	R22
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE + TXV	CAP. TUBE - INDOOR (COOLING) & OUTDOOR (HEATING)
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION			WIRELESSS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH		l/s / CFM	491 / 1040	731 / 1550
		MEDIUM		l/s / CFM	448 / 950	623 / 1320
		LOW		l/s / CFM	387 / 820	472 / 1000
	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0	0
	SOUND PRESSURE LEVEL (H/M/L)			dBA	54 / 53 / 52	56 / 53 / 46
	UNIT DIMENSION	HEIGHT		mm/in	249 / 9.8	285 / 11.2
		WIDTH		mm/in	1714 / 67.4	1903 / 74.9
		DEPTH		mm/in	670 / 26.3	680 / 26.8
	PACKING DIMENSION	HEIGHT		mm/in	345 / 13.6	368 / 14.5
		WIDTH		mm/in	1816 / 71.4	1984 / 78.1
		DEPTH		mm/in	760 / 29.9	760 / 29.9
	UNIT WEIGHT			kg/lb	70 / 154	85 / 187
	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4	19.1 / 3/4
OUTDOOR UNIT	AIR FLOW			l/s / CFM	1605 / 3400	1793 / 3800
	SOUND PRESSURE LEVEL			dBA	58	61
	UNIT DIMENSION	HEIGHT		mm/in	850 / 33.5	850 / 33.5
		WIDTH		mm/in	1030 / 40.6	1030 / 40.6
		DEPTH		mm/in	400 / 15.8	460 / 18.1
	PACKING DIMENSION	HEIGHT		mm/in	1000 / 39.4	1016 / 40.0
		WIDTH		mm/in	1200 / 47.2	1178 / 46.4
		DEPTH		mm/in	560 / 22.1	602 / 23.7
	UNIT WEIGHT			kg/lb	105 / 231.5	108 / 238.1
	PIPE CONNECTION	TYPE			FLARE VALVE	
		SIZE	LIQUID	mm/in	9.5 / 3/8	12.7 / 1/2
			GAS	mm/in	19.1 / 3/4	19.1 / 3/4
REFRIGERANT CHARGE				kg/lb	2.75 / 6.06	5.00 / 11.02

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Cooling Only (R410A)

MODEL		INDOOR UNIT		M5CM 040D	
		OUTDOOR UNIT		M5LC 035C	M5LC 040C
NOMINAL COOLING CAPACITY - 1Ø / <3Ø>			Btu/h	33000 / <33300>	38500 / <38500>
			W	9670 / <9670>	11280 / <11280>
NOMINAL TOTAL INPUT POWER (COOLING) - 1Ø / <3Ø>			W	3148 / <3048>	3954 / <3900>
NOMINAL RUNNING CURRENT (COOLING) - 1Ø / <3Ø>			A	15.7 / <5.5>	18.7 / <8.5>
POWER SOURCE - 1Ø / <3Ø>			V/Ph/Hz	220 - 240 / 1 / 50 <380 - 415 / 3 / 50>	
EER - 1Ø / <3Ø>			W/W	3.07 / <3.17>	2.85 / <2.89>
REFRIGERANT TYPE				R410A	
REFRIGERANT CONTROL (EXPANSION DEVICE)				OUTDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION		WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH	l/s / CFM	477 / 1010	
		MEDIUM	l/s / CFM	420 / 890	
		LOW	l/s / CFM	368 / 780	
	EXTERNAL STATIC PRESSURE (H/M/L)		mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)		dBA	54 / 53 / 52	
	UNIT DIMENSION	HEIGHT	mm/in	249 / 9.8	
		WIDTH	mm/in	1714 / 67.4	
		DEPTH	mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT	mm/in	345 / 13.6	
		WIDTH	mm/in	1816 / 71.4	
		DEPTH	mm/in	760 / 29.9	
	UNIT WEIGHT		kg/lb	70 / 154	
	CONDENSATE DRAIN SIZE		mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW		l/s / CFM	1605 / 3400	
	SOUND PRESSURE LEVEL		dBA	58	
	UNIT DIMENSION	HEIGHT	mm/in	850 / 33.5	
		WIDTH	mm/in	1030 / 40.6	
		DEPTH	mm/in	400 / 15.8	
	PACKING DIMENSION	HEIGHT	mm/in	1000 / 39.4	
		WIDTH	mm/in	1200 / 47.2	
		DEPTH	mm/in	560 / 22.1	
	UNIT WEIGHT		kg/lb	100 / 221	
	PIPE CONNECTION	TYPE		FLARE VALVE	
		SIZE LIQUID	mm/in	9.5 / 3/8	
		SIZE GAS	mm/in	15.9 / 5/8	
REFRIGERANT CHARGE			kg/lb	1.95 / 4.30	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Cooling Only (R410A)

MODEL				INDOOR UNIT	M5CM 050D	M5CM 062C
				OUTDOOR UNIT	M5LC 050C	M5LC 061C
NOMINAL COOLING CAPACITY				Btu/h	43000	55000
				W	12600	16119
NOMINAL TOTAL INPUT POWER (COOLING)				W	4700	6414
NOMINAL RUNNING CURRENT (COOLING)				A	8.3	9.6
POWER SOURCE				V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
EER				W/W	2.68	2.51
REFRIGERANT TYPE					R410A	
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION			WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH		l/s / CFM	491 / 1040	732 / 1550
		MEDIUM		l/s / CFM	448 / 950	623 / 1320
		LOW		l/s / CFM	387 / 820	472 / 1000
	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0	0
	SOUND PRESSURE LEVEL (H/M/L)			dBA	54 / 53 / 52	56 / 53 / 46
	UNIT DIMENSION	HEIGHT		mm/in	249 / 9.8	285 / 11.2
		WIDTH		mm/in	1714 / 67.4	1903 / 74.9
		DEPTH		mm/in	670 / 26.3	680 / 26.8
	PACKING DIMENSION	HEIGHT		mm/in	345 / 13.6	368 / 14.5
		WIDTH		mm/in	1816 / 71.4	1984 / 78.1
		DEPTH		mm/in	760 / 29.9	760 / 29.9
	UNIT WEIGHT			kg/lb	70 / 154	85 / 187
	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW			l/s / CFM	1510 / 3200	2171 / 4600
	SOUND PRESSURE LEVEL			dBA	60	65
	UNIT DIMENSION	HEIGHT		mm/in	850 / 33.5	850 / 33.5
		WIDTH		mm/in	1030 / 40.6	1030 / 40.6
		DEPTH		mm/in	400 / 15.8	460 / 18.1
	PACKING DIMENSION	HEIGHT		mm/in	1000 / 39.4	1016 / 40.0
		WIDTH		mm/in	1200 / 47.2	1178 / 46.4
		DEPTH		mm/in	560 / 22.1	602 / 23.7
	UNIT WEIGHT			kg/lb	105 / 232	108 / 238
	PIPE CONNECTION	TYPE			FLARE VALVE	
		SIZE	LIQUID	mm/in	9.5 / 3/8	9.5 / 3/8
			GAS	mm/in	15.9 / 5/8	19.1 / 3/4
REFRIGERANT CHARGE				kg/lb	2.25 / 4.96	3.40 / 7.49

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat pump (R410A)

MODEL				M5CM 040DR (INDOOR UNIT)	
		OUTDOOR UNIT		M5LC 035CR	M5LC 040CR
NOMINAL COOLING CAPACITY - 1Ø / <3Ø>			Btu/h	33000 / <33000>	38500 / <38500>
			W	9670 / <9670>	11280 / <11280>
NOMINAL HEATING CAPACITY - 1Ø / <3Ø>			Btu/h	33000 / <33000>	39000 / <39000>
			W	9670 / <9670>	11430 / <11430>
NOMINAL TOTAL INPUT POWER (COOLING) - 1Ø / <3Ø>			W	3148 / <3048>	3954 / <3900>
NOMINAL TOTAL INPUT POWER (HEATING) - 1Ø / <3Ø>			W	2958 / <2848>	3470 / <3450>
NOMINAL RUNNING CURRENT (COOLING) - 1Ø / <3Ø>			A	15.7 / <5.5>	18.7 / <8.5>
NOMINAL RUNNING CURRENT (HEATING) - 1Ø / <3Ø>			A	14.7 / <6.4>	17.5 / <7.9>
POWER SOURCE - 1Ø / <3Ø>			V/Ph/Hz	220 - 240 / 1 / 50 <380 - 415 / 3 / 50>	
EER - 1Ø / <3Ø>			W/W	3.07 / <3.17>	2.85 / <2.89>
COP - 1Ø / <3Ø>			W/W	3.27 / <3.40>	3.29 / <3.31>
REFRIGERANT TYPE				R410A	
REFRIGERANT CONTROL (EXPANSION DEVICE)				OUTDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
		OPERATION		WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	AIR FLOW	HIGH	l/s / CFM	477 / 1010	
		MEDIUM	l/s / CFM	420 / 890	
		LOW	l/s / CFM	368 / 780	
	EXTERNAL STATIC PRESSURE (H/M/L)		mmAq	0	
	SOUND PRESSURE LEVEL (H/M/L)		dBA	54 / 53 / 52	
	UNIT DIMENSION	HEIGHT	mm/in	249 / 9.8	
		WIDTH	mm/in	1714 / 67.4	
		DEPTH	mm/in	670 / 26.3	
	PACKING DIMENSION	HEIGHT	mm/in	345 / 13.6	
		WIDTH	mm/in	1816 / 71.4	
		DEPTH	mm/in	760 / 29.9	
	UNIT WEIGHT		kg/lb	70 / 154	
	CONDENSATE DRAIN SIZE		mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW		l/s / CFM	1605 / 3400	
	SOUND PRESSURE LEVEL		dBA	58	
	UNIT DIMENSION	HEIGHT	mm/in	850 / 33.5	
		WIDTH	mm/in	1030 / 40.6	
		DEPTH	mm/in	400 / 15.8	
	PACKING DIMENSION	HEIGHT	mm/in	1000 / 39.4	
		WIDTH	mm/in	1200 / 47.2	
		DEPTH	mm/in	560 / 22.1	
	UNIT WEIGHT		kg/lb	100 / 221	
	PIPE CONNECTION	TYPE		FLARE VALVE	
		SIZE LIQUID	mm/in	9.5 / 3/8	
		SIZE GAS	mm/in	15.9 / 5/8	
REFRIGERANT CHARGE			kg/lb	1.95 / 4.30	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

General Data - Heat pump (R410A)

MODEL					M5CM 050DR	M5CM 062CR
MODEL	INDOOR UNIT				M5CM 050DR	M5CM 062CR
MODEL	OUTDOOR UNIT				M5LC 050CR	M5LC 061CR
NOMINAL COOLING CAPACITY				Btu/h	43000	55000
				W	12600	16119
NOMINAL HEATING CAPACITY				Btu/h	46000	55000
				W	13480	16119
NOMINAL TOTAL INPUT POWER (COOLING)				W	4700	6414
NOMINAL TOTAL INPUT POWER (HEATING)				W	4580	6349
NOMINAL RUNNING CURRENT (COOLING)				A	8.3	9.6
NOMINAL RUNNING CURRENT (HEATING)				A	8.2	8.4
POWER SOURCE				V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
EER				W/W	2.68	2.51
COP				W/W	2.94	2.54
REFRIGERANT TYPE					R410A	
REFRIGERANT CONTROL (EXPANSION DEVICE)					OUTDOOR CAP. TUBE	
INDOOR UNIT	CONTROL	AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)	
INDOOR UNIT	CONTROL	OPERATION			WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL	
INDOOR UNIT	AIR FLOW	HIGH		l/s / CFM	491 / 1040	732 / 1550
INDOOR UNIT	AIR FLOW	MEDIUM		l/s / CFM	448 / 950	623 / 1320
INDOOR UNIT	AIR FLOW	LOW		l/s / CFM	387 / 820	472 / 1000
INDOOR UNIT	EXTERNAL STATIC PRESSURE (H/M/L)			mmAq	0	0
INDOOR UNIT	SOUND PRESSURE LEVEL (H/M/L)			dBA	54 / 53 / 52	56 / 53 / 46
INDOOR UNIT	UNIT DIMENSION	HEIGHT		mm/in	249 / 9.8	285 / 11.2
INDOOR UNIT	UNIT DIMENSION	WIDTH		mm/in	1714 / 67.4	1903 / 74.9
INDOOR UNIT	UNIT DIMENSION	DEPTH		mm/in	670 / 26.3	680 / 26.8
INDOOR UNIT	PACKING DIMENSION	HEIGHT		mm/in	345 / 13.6	368 / 14.5
INDOOR UNIT	PACKING DIMENSION	WIDTH		mm/in	1816 / 71.4	1984 / 78.1
INDOOR UNIT	PACKING DIMENSION	DEPTH		mm/in	760 / 29.9	760 / 29.9
INDOOR UNIT	UNIT WEIGHT			kg/lb	70 / 154	85 / 187
INDOOR UNIT	CONDENSATE DRAIN SIZE			mm/in	19.1 / 3/4	
OUTDOOR UNIT	AIR FLOW			l/s / CFM	1510 / 3200	2171 / 4600
OUTDOOR UNIT	SOUND PRESSURE LEVEL			dBA	60	65
OUTDOOR UNIT	UNIT DIMENSION	HEIGHT		mm/in	850 / 33.5	850 / 33.5
OUTDOOR UNIT	UNIT DIMENSION	WIDTH		mm/in	1030 / 40.6	1030 / 40.6
OUTDOOR UNIT	UNIT DIMENSION	DEPTH		mm/in	400 / 15.8	460 / 18.1
OUTDOOR UNIT	PACKING DIMENSION	HEIGHT		mm/in	1000 / 39.4	1016 / 40.0
OUTDOOR UNIT	PACKING DIMENSION	WIDTH		mm/in	1200 / 47.2	1178 / 46.4
OUTDOOR UNIT	PACKING DIMENSION	DEPTH		mm/in	560 / 22.1	602 / 23.7
OUTDOOR UNIT	UNIT WEIGHT			kg/lb	105 / 232	108 / 238
OUTDOOR UNIT	PIPE CONNECTION	TYPE			FLARE VALVE	
OUTDOOR UNIT	PIPE CONNECTION	SIZE	LIQUID	mm/in	9.5 / 3/8	9.5 / 3/8
OUTDOOR UNIT	PIPE CONNECTION	SIZE	GAS	mm/in	15.9 / 5/8	19.1 / 3/4
REFRIGERANT CHARGE				kg/lb	2.25 / 4.96	3.40 / 7.49

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 27°C DB / 19°C WB INDOOR AND 35°C DB / 24°C WB OUTDOOR
b) HEATING - 20°C DB INDOOR AND 7°C DB / 6°C WB OUTDOOR
4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

Components Data (R22)

MODEL	INDOOR UNIT				MCM 020D	
	OUTDOOR UNIT				MLC 018C	MLC 020C
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				2	
	MATERIAL				ABS	
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	
	LENGTH			mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				N/A	
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	457 / 18	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				IP54	
COMPRESSOR	TYPE				ROTARY	
	OIL TYPE				ATMOS NM56M or SUNISO 4GDID	
	OIL AMOUNT			cm^3 / fl.oz.	670 / 23.6	
INDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	
		THICKNESS		mm/in	0.11 / 0.0043	
		FACE AREA		m^2/ft^2	0.19 / 2.06	
		ROW			3	
		FIN PER INCH			12	
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	7.00 / 0.276	
		THICKNESS		mm/in	0.28 / 0.011	
	FIN	MATERIAL			ALUMINIUM (RAISE LANCE)	
		THICKNESS		mm/in	0.10 / 0.004	
		FACE AREA		m^2/ft^2	0.52 / 5.59	
		ROW			1	2
		FIN PER INCH			20	24
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2	
		SIZE	LENGTH	mm/in	544 / 21.4	
			WIDTH	mm/in	270 / 10.6	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Components Data (R22)

MODEL	INDOOR UNIT				**MCM 025D**
	OUTDOOR UNIT				**MLC 025C**
INDOOR FAN	TYPE				CROSS FLOW
	QUANTITY				2
	MATERIAL				ABS
	DRIVE				DIRECT
	DIAMETER			mm/in	146 / 5.75
	LENGTH			mm/in	200 / 7.87
INDOOR FAN MOTOR	TYPE				INDUCTION
	QUANTITY				1
	INDEX OF PROTECTION (IP)				N/A
OUTDOOR FAN	TYPE				PROPELLER
	QUANTITY				1
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN
	DRIVE				DIRECT
	DIAMETER			mm/in	457 / 18
OUTDOOR FAN MOTOR	TYPE				INDUCTION
	QUANTITY				1
	INDEX OF PROTECTION (IP)				IP54
COMPRESSOR	TYPE				ROTARY
	OIL TYPE				ATMOS NM56M or SUNISO 4GDID
	OIL AMOUNT			cm^3 / fl.oz.	700 / 24.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER
		DIAMETER		mm/in	9.52 / 3/8
		THICKNESS		mm/in	0.30 / 0.012
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.11 / 0.0043
		FACE AREA		m^2/ft^2	0.19 / 2.06
		ROW			3
		FIN PER INCH			12
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER
		DIAMETER		mm/in	7.00 / 0.276
		THICKNESS		mm/in	0.28 / 0.011
	FIN	MATERIAL			ALUMINIUM (RAISE LANCE)
		THICKNESS		mm/in	0.10 / 0.004
		FACE AREA		m^2/ft^2	0.62 / 6.67
		ROW			2
		FIN PER INCH			18
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER
		QUANTITY		pc	2
		SIZE	LENGTH	mm/in	544 / 21.4
			WIDTH	mm/in	270 / 10.6
			THICKNESS	mm/in	3 / 0.11
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL
				FINISHING	POLYESTER POWDER
				COLOUR	LIGHT GREY
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL
				FINISHING	POLYESTER POWDER
				COLOUR	LIGHT GREY

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Components Data (R22)

MODEL	INDOOR UNIT				MCM 030D	
	OUTDOOR UNIT				MLC 028C	MLC 030C
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				3	
	MATERIAL				ABS	
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	
	LENGTH			mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				N/A	
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	457 / 18	609.6 / 24
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				IP54	-
COMPRESSOR	TYPE				ROTARY	SCROLL
	OIL TYPE				ATMOS M60 or SUNISO 4GDID	MINERAL (Sontex 200 LT)
	OIL AMOUNT			cm^3 / fl.oz.	1130 / 39.8	1240 / 43.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	
		THICKNESS		mm/in	0.11 / 0.0043	
		FACE AREA		m^2/ft^2	0.24 / 2.58	
		ROW			3	
		FIN PER INCH			12	
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	SEAMLESS COPPER
		DIAMETER		mm/in	9.52 / 3/8	9.52 / 3/8
		THICKNESS		mm/in	0.33 / 0.013	0.35 / 0.014
	FIN	MATERIAL			ALUMINIUM (SLIT FIN)	ALUMINIUM (SLIT FIN)
		THICKNESS		mm/in	0.12 / 0.005	0.12 / 0.005
		FACE AREA		m^2/ft^2	0.61 / 6.52	0.87 / 9.33
		ROW			2	1
		FIN PER INCH			18	16
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2	
		SIZE	LENGTH	mm/in	544 / 21.4	
			WIDTH	mm/in	270 / 10.6	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Components Data (R22)

MODEL	INDOOR UNIT				MCM 040D	
	OUTDOOR UNIT				MLC 035C	MLC 040C
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				4	
	MATERIAL				ABS	
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	
	LENGTH			mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				N/A	
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				-	
COMPRESSOR	TYPE				SCROLL	
	OIL TYPE				MINERAL (Sontex 200LT)	MINERAL (Sontex 200LT)
	OIL AMOUNT			cm^3 / fl.oz.	1240 / 43.6	1240 / 43.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	
		THICKNESS		mm/in	0.11 / 0.0043	
		FACE AREA		m^2/ft^2	0.36 / 3.95	
		ROW			4	
		FIN PER INCH			12	
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.35 / 0.014	
	FIN	MATERIAL			ALUMINIUM (SLIT FIN)	ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.127 / 0.005	0.127 / 0.005
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.87 / 9.33
		ROW			1	2
		FIN PER INCH			16	14
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2 + 1	
		SIZE	LENGTH	mm/in	544 + 494 / 21.4 + 19.4	
			WIDTH	mm/in	270 / 10.6	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Components Data (R22)

MODEL	INDOOR UNIT				MCM 050D	MCM 062C
	OUTDOOR UNIT				MLC 050C	MLC 061C
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				4	
	MATERIAL				ABS	ALU
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	160 / 6.30
	LENGTH			mm/in	200 / 7.87	202 / 7.95
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	2
	INDEX OF PROTECTION (IP)				N/A	N/A
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				-	
COMPRESSOR	TYPE				SCROLL	
	OIL TYPE				MINERAL (Sontex 200LT)	MINERAL (Sontex 200LT)
	OIL AMOUNT			cm^3 / fl.oz.	1950 / 68.6	1950 / 68.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	ALUMINIUM (SLIT FIN)
		THICKNESS		mm/in	0.11 / 0.0043	0.11 / 0.0043
		FACE AREA		m^2/ft^2	0.36 / 3.95	0.42 / 4.51
		ROW			4	4
		FIN PER INCH			12	14
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	SEAMLESS INNER GROOVE COPPER
		DIAMETER		mm/in	9.52 / 3/8	9.52 / 3/8
		THICKNESS		mm/in	0.35 / 0.014	0.33 / 0.013
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	ALUMINIUM (SLIT FIN)
		THICKNESS		mm/in	0.127 / 0.005	0.127 / 0.005
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.84 / 9.04
		ROW			2	3
		FIN PER INCH			16	14
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2 + 3	
		SIZE	LENGTH	mm/in	500 + 400 / 19.6 + 15.7	
			WIDTH	mm/in	285 / 11.2	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Components Data (R22)

MODEL	INDOOR UNIT			MCM 020DR	
	OUTDOOR UNIT			MLC 018CR	MLC 020CR
INDOOR FAN	TYPE			CROSS FLOW	
	QUANTITY			2	
	MATERIAL			ABS	
	DRIVE			DIRECT	
	DIAMETER		mm/in	146 / 5.75	
	LENGTH		mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE			INDUCTION	
	QUANTITY			1	
	INDEX OF PROTECTION (IP)			N/A	
OUTDOOR FAN	TYPE			PROPELLER	
	QUANTITY			1	
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE			DIRECT	
	DIAMETER		mm/in	457 / 18	
OUTDOOR FAN MOTOR	TYPE			INDUCTION	
	QUANTITY			1	
	INDEX OF PROTECTION (IP)			IP54	
COMPRESSOR	TYPE			ROTARY	
	OIL TYPE			ATMOS NM56M or SUNISO 4GDID	
	OIL AMOUNT		cm^3 / fl.oz.	670 / 23.6	
INDOOR COIL	TUBE	MATERIAL		SEAMLESS COPPER	
		DIAMETER	mm/in	9.52 / 3/8	
		THICKNESS	mm/in	0.30 / 0.012	
	FIN	MATERIAL		ALUMINIUM (CORR. FIN)	
		THICKNESS	mm/in	0.11 / 0.0043	
		FACE AREA	m^2/ft^2	0.19 / 2.06	
		ROW		3	
		FIN PER INCH		12	
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	
		DIAMETER	mm/in	7.00 / 0.276	
		THICKNESS	mm/in	0.28 / 0.011	
	FIN	MATERIAL		ALUMINIUM (RAISE LANCE)	
		THICKNESS	mm/in	0.10 / 0.004	
		FACE AREA	m^2/ft^2	0.52 / 5.59	
		ROW		1	2
		FIN PER INCH		20	24
AIR QUALITY	FILTER	TYPE		WASHABLE SARANET FILTER	
		QUANTITY	pc	2	
		SIZE LENGTH	mm/in	544 / 21.4	
		SIZE WIDTH	mm/in	270 / 10.6	
		SIZE THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT		MATERIAL	GALVANIZED MILD STEEL	
			FINISHING	POLYESTER POWDER	
			COLOUR	LIGHT GREY	
	OUTDOOR UNIT		MATERIAL	GALVANIZED MILD STEEL	
			FINISHING	POLYESTER POWDER	
			COLOUR	LIGHT GREY	

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Components Data (R22)

MODEL	INDOOR UNIT				**MCM 025DR**
	OUTDOOR UNIT				**MLC 025CR**
INDOOR FAN	TYPE				CROSS FLOW
	QUANTITY				2
	MATERIAL				ABS
	DRIVE				DIRECT
	DIAMETER			mm/in	146 / 5.75
	LENGTH			mm/in	200 / 7.87
INDOOR FAN MOTOR	TYPE				INDUCTION
	QUANTITY				1
	INDEX OF PROTECTION (IP)				N/A
OUTDOOR FAN	TYPE				PROPELLER
	QUANTITY				1
	MATERIAL				GLASS REINFORCED ACRYL SYRENE RESIN
	DRIVE				DIRECT
	DIAMETER			mm/in	457 / 18
OUTDOOR FAN MOTOR	TYPE				INDUCTION
	QUANTITY				1
	INDEX OF PROTECTION (IP)				IP54
COMPRESSOR	TYPE				ROTARY
	OIL TYPE				ATMOS NM56M or SUNISO 4GDID
	OIL AMOUNT			cm^3 / fl.oz.	700 / 24.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER
		DIAMETER		mm/in	9.52 / 3/8
		THICKNESS		mm/in	0.30 / 0.012
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.11 / 0.0043
		FACE AREA		m^2/ft^2	0.19 / 2.06
		ROW			3
		FIN PER INCH			12
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER
		DIAMETER		mm/in	7.00 / 0.276
		THICKNESS		mm/in	0.28 / 0.011
	FIN	MATERIAL			ALUMINIUM (RAISE LANCE)
		THICKNESS		mm/in	0.10 / 0.004
		FACE AREA		m^2/ft^2	0.62 / 6.67
		ROW			2
		FIN PER INCH			18
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER
		QUANTITY		pc	2
		SIZE	LENGTH	mm/in	544 / 21.4
			WIDTH	mm/in	270 / 10.6
			THICKNESS	mm/in	3 / 0.11
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL
				FINISHING	POLYESTER POWDER
				COLOUR	LIGHT GREY
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL
				FINISHING	POLYESTER POWDER
				COLOUR	LIGHT GREY

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Components Data (R22)

MODEL	INDOOR UNIT				MCM 030DR	
	OUTDOOR UNIT				MLC 028CR	MLC 030CR
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				3	
	MATERIAL				ABS	
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	
	LENGTH			mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				N/A	
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	457 / 18	609.6 / 24
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				IP54	-
COMPRESSOR	TYPE				ROTARY	SCROLL
	OIL TYPE				ATMOS M60 or SUNISO 4GDID	MINERAL (Sontex 200 LT)
	OIL AMOUNT			cm^3 / fl.oz.	1130 / 39.8	1240 / 43.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	
		THICKNESS		mm/in	0.11 / 0.0043	
		FACE AREA		m^2/ft^2	0.24 / 2.58	
		ROW			3	
		FIN PER INCH			12	
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	SEAMLESS COPPER
		DIAMETER		mm/in	9.52 / 3/8	9.52 / 3/8
		THICKNESS		mm/in	0.33 / 0.013	0.35 / 0.014
	FIN	MATERIAL			ALUMINIUM (SLIT FIN)	ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.12 / 0.005	0.12 / 0.005
		FACE AREA		m^2/ft^2	0.61 / 6.52	0.87 / 9.33
		ROW			2	2
		FIN PER INCH			18	16
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2	
		SIZE	LENGTH	mm/in	544 / 21.4	
			WIDTH	mm/in	270 / 10.6	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Components Data (R22)

MODEL	INDOOR UNIT			MCM 040DR	
	OUTDOOR UNIT			MLC 035CR	MLC 040CR
INDOOR FAN	TYPE			CROSS FLOW	
	QUANTITY			4	
	MATERIAL			ABS	
	DRIVE			DIRECT	
	DIAMETER		mm/in	146 / 5.75	
	LENGTH		mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE			INDUCTION	
	QUANTITY			1	
	INDEX OF PROTECTION (IP)			N/A	
OUTDOOR FAN	TYPE			PROPELLER	
	QUANTITY			1	
	MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE			DIRECT	
	DIAMETER		mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE			INDUCTION	
	QUANTITY			1	
	INDEX OF PROTECTION (IP)			-	
COMPRESSOR	TYPE			SCROLL	
	OIL TYPE			MINERAL (Sontex 200LT)	MINERAL (Sontex 200LT)
	OIL AMOUNT		cm^3 / fl.oz.	1240 / 43.6	1240 / 43.6
INDOOR COIL	TUBE	MATERIAL		SEAMLESS COPPER	
		DIAMETER	mm/in	9.52 / 3/8	
		THICKNESS	mm/in	0.30 / 0.012	
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC)	
		THICKNESS	mm/in	0.11 / 0.0043	
		FACE AREA	m^2/ft^2	0.36 / 3.95	
		ROW		4	
		FIN PER INCH		12	
OUTDOOR COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVE COPPER	
		DIAMETER	mm/in	9.52 / 3/8	
		THICKNESS	mm/in	0.33 / 0.013	
	FIN	MATERIAL		ALUMINIUM (CORR. FIN)	
		THICKNESS	mm/in	0.127 / 0.005	
		FACE AREA	m^2/ft^2	0.87 / 9.33	
		ROW		2	
		FIN PER INCH		16	
AIR QUALITY	FILTER	TYPE		WASHABLE SARANET FILTER	
		QUANTITY	pc	2 + 1	
		SIZE LENGTH	mm/in	544 + 494 / 21.4 + 19.4	
		SIZE WIDTH	mm/in	270 / 10.6	
		SIZE THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT		MATERIAL	GALVANIZED MILD STEEL	
			FINISHING	POLYESTER POWDER	
			COLOUR	LIGHT GREY	
	OUTDOOR UNIT		MATERIAL	GALVANIZED MILD STEEL	
			FINISHING	POLYESTER POWDER	
			COLOUR	LIGHT GREY	

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Components Data (R22)

					MCM 050DR	MCM 062CR
MODEL	INDOOR UNIT				MCM 050DR	MCM 062CR
	OUTDOOR UNIT				MLC 050CR	MLC 061CR
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				4	
	MATERIAL				ABS	ALU
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	160 / 6.30
	LENGTH			mm/in	200 / 7.87	202 / 7.95
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	2
	INDEX OF PROTECTION (IP)				N/A	N/A
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				-	
COMPRESSOR	TYPE				SCROLL	
	OIL TYPE				MINERAL (Sontex 200LT)	MINERAL (Sontex 200LT)
	OIL AMOUNT			cm^3 / fl.oz.	1950 / 68.6	1950 / 68.6
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	ALUMINIUM (SLIT FIN)
		THICKNESS		mm/in	0.11 / 0.0043	0.11 / 0.0043
		FACE AREA		m^2/ft^2	0.36 / 3.95	0.42 / 4.51
		ROW			4	4
		FIN PER INCH			12	14
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.33 / 0.013	
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	ALUMINIUM (SLIT FIN)
		THICKNESS		mm/in	0.127 / 0.005	0.127 / 0.005
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.84 / 9.04
		ROW			2	3
		FIN PER INCH			16	14
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2 + 3	
		SIZE	LENGTH	mm/in	500 + 400 / 19.6 + 15.7	
			WIDTH	mm/in	285 / 11.2	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Component Data (R410A)

MODEL	INDOOR UNIT				M5CM 040D	
	OUTDOOR UNIT				M5LC 035C	M5LC 040C
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				4	
	MATERIAL				ABS	
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	
	LENGTH			mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				N/A	
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				-	
COMPRESSOR	TYPE				SCROLL	SCROLL
	OIL TYPE				MOBIL EAL ARCTIC 22CC	MOBIL EAL ARCTIC 22CC
	OIL AMOUNT			cm^3 / fl.oz.	1242 / 43.7	1951 / 68.7
INDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	
		THICKNESS		mm/in	0.11 / 0.0043	
		FACE AREA		m^2/ft^2	0.36 / 3.95	
		ROW			4	
		FIN PER INCH			12	
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	7.00 / 0.276	
		THICKNESS		mm/in	0.28 / 0.011	
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.10 / 0.0039	0.10 / 0.0039
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.87 / 9.33
		ROW			2	2
		FIN PER INCH			18	18
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2 + 1	
		SIZE	LENGTH	mm/in	544 + 494 / 21.4 + 19.4	
			WIDTH	mm/in	270 / 10.6	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Component Data (R410A)

MODEL	INDOOR UNIT				M5CM 050D	M5CM 062C
MODEL	OUTDOOR UNIT				M5LC 050C	M5LC 061C
INDOOR FAN	TYPE				CROSS FLOW	
INDOOR FAN	QUANTITY				4	4
INDOOR FAN	MATERIAL				ABS	ALU
INDOOR FAN	DRIVE				DIRECT	
INDOOR FAN	DIAMETER			mm/in	146 / 5.75	160 / 6.30
INDOOR FAN	LENGTH			mm/in	200 / 7.87	202 / 7.95
INDOOR FAN MOTOR	TYPE				INDUCTION	
INDOOR FAN MOTOR	QUANTITY				1	2
INDOOR FAN MOTOR	INDEX OF PROTECTION (IP)				N/A	N/A
OUTDOOR FAN	TYPE				PROPELLER	
OUTDOOR FAN	QUANTITY				1	
OUTDOOR FAN	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
OUTDOOR FAN	DRIVE				DIRECT	
OUTDOOR FAN	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
OUTDOOR FAN MOTOR	QUANTITY				1	
OUTDOOR FAN MOTOR	INDEX OF PROTECTION (IP)				-	-
COMPRESSOR	TYPE				SCROLL	
COMPRESSOR	OIL TYPE				MOBIL EAL ARCTIC 22CC	MOBIL EAL ARCTIC 22CC
COMPRESSOR	OIL AMOUNT			cm^3 / fl.oz.	1656 / 58.3	1591 / 56
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVED COPPER	SEAMLESS COPPER
INDOOR COIL	TUBE	DIAMETER		mm/in	9.52 / 3/8	9.52 / 3/8
INDOOR COIL	TUBE	THICKNESS		mm/in	0.30 / 0.012	0.30 / 0.012
INDOOR COIL	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	ALUMINIUM (SLIT FIN)
INDOOR COIL	FIN	THICKNESS		mm/in	0.11 / 0.0043	0.11 / 0.0043
INDOOR COIL	FIN	FACE AREA		m^2/ft^2	0.36 / 3.95	0.42 / 4.51
INDOOR COIL	FIN	ROW			4	4
INDOOR COIL	FIN	FIN PER INCH			18	14
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
OUTDOOR COIL	TUBE	DIAMETER		mm/in	7.00 / 0.276	
OUTDOOR COIL	TUBE	THICKNESS		mm/in	0.28 / 0.011	
OUTDOOR COIL	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	ALUMINIUM (CORR. FIN)
OUTDOOR COIL	FIN	THICKNESS		mm/in	0.10 / 0.0039	0.10 / 0.0039
OUTDOOR COIL	FIN	FACE AREA		m^2/ft^2	0.87 / 9.33	0.84 / 9.04
OUTDOOR COIL	FIN	ROW			2	3
OUTDOOR COIL	FIN	FIN PER INCH			18	18
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
AIR QUALITY	FILTER	QUANTITY		pc	2 + 3	
AIR QUALITY	FILTER	SIZE	LENGTH	mm/in	500 + 400 / 19.6 + 15.7	
AIR QUALITY	FILTER	SIZE	WIDTH	mm/in	285 / 11.2	
AIR QUALITY	FILTER	SIZE	THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
CASING	INDOOR UNIT			FINISHING	POLYESTER POWDER	
CASING	INDOOR UNIT			COLOUR	LIGHT GREY	
CASING	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
CASING	OUTDOOR UNIT			FINISHING	POLYESTER POWDER	
CASING	OUTDOOR UNIT			COLOUR	LIGHT GREY	

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Component Data (R22)

MODEL	INDOOR UNIT				MCM 040DR	
	OUTDOOR UNIT				MLC 035CR	MLC 040CR
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				4	
	MATERIAL				ABS	
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	
	LENGTH			mm/in	200 / 7.87	
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				N/A	
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				-	
COMPRESSOR	TYPE				SCROLL	SCROLL
	OIL TYPE				MOBIL EAL ARCTIC 22CC	MOBIL EAL ARCTIC 22CC
	OIL AMOUNT			cm^3 / fl.oz.	1242 / 43.7	1951 / 68.7
INDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
		DIAMETER		mm/in	9.52 / 3/8	
		THICKNESS		mm/in	0.30 / 0.012	
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	
		THICKNESS		mm/in	0.11 / 0.0043	
		FACE AREA		m^2/ft^2	0.36 / 3.95	
		ROW			4	
		FIN PER INCH			12	
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVE COPPER	
		DIAMETER		mm/in	7.00 / 0.276	
		THICKNESS		mm/in	0.28 / 0.011	
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.10 / 0.0039	0.10 / 0.0039
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.87 / 9.33
		ROW			2	2
		FIN PER INCH			18	18
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2 + 1	
		SIZE	LENGTH	mm/in	544 + 494 / 21.4 + 19.4	
			WIDTH	mm/in	270 / 10.6	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Component Data (R410A)

					M5CM 050DR	M5CM 062CR
MODEL	INDOOR UNIT				M5CM 050DR	M5CM 062CR
	OUTDOOR UNIT				M5LC 050CR	M5LC 061CR
INDOOR FAN	TYPE				CROSS FLOW	
	QUANTITY				4	
	MATERIAL				ABS	ALU
	DRIVE				DIRECT	
	DIAMETER			mm/in	146 / 5.75	160 / 6.30
	LENGTH			mm/in	200 / 7.87	202 / 7.95
INDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	2
	INDEX OF PROTECTION (IP)				N/A	N/A
OUTDOOR FAN	TYPE				PROPELLER	
	QUANTITY				1	
	MATERIAL				GLASS REINFORCED ACRYL STYRENE RESIN	
	DRIVE				DIRECT	
	DIAMETER			mm/in	609.6 / 24	
OUTDOOR FAN MOTOR	TYPE				INDUCTION	
	QUANTITY				1	
	INDEX OF PROTECTION (IP)				-	
COMPRESSOR	TYPE				SCROLL	
	OIL TYPE				MOBIL EAL ARCTIC 22CC	MOBIL EAL ARCTIC 22CC
	OIL AMOUNT			cm^3 / fl.oz.	1656 / 58.3	1591 / 56
INDOOR COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVED COPPER	SEAMLESS COPPER
		DIAMETER		mm/in	9.52 / 3/8	9.52 / 3/8
		THICKNESS		mm/in	0.30 / 0.012	0.30 / 0.012
	FIN	MATERIAL			ALUMINIUM (HYDROPHILIC)	ALUMINIUM (SLIT FIN)
		THICKNESS		mm/in	0.11 / 0.0043	0.11 / 0.0043
		FACE AREA		m^2/ft^2	0.36 / 3.95	0.42 / 4.51
		ROW			4	4
		FIN PER INCH			18	14
OUTDOOR COIL	TUBE	MATERIAL			SEAMLESS COPPER	
		DIAMETER		mm/in	7.00 / 0.276	
		THICKNESS		mm/in	0.28 / 0.011	
	FIN	MATERIAL			ALUMINIUM (CORR. FIN)	ALUMINIUM (CORR. FIN)
		THICKNESS		mm/in	0.10 / 0.0039	0.10 / 0.0039
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.84 / 9.04
		ROW			2	3
		FIN PER INCH			18	18
AIR QUALITY	FILTER	TYPE			WASHABLE SARANET FILTER	
		QUANTITY		pc	2 + 3	
		SIZE	LENGTH	mm/in	500 + 400 / 19.6 + 15.7	
			WIDTH	mm/in	285 / 11.2	
			THICKNESS	mm/in	3 / 0.11	
CASING	INDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	
	OUTDOOR UNIT			MATERIAL	GALVANIZED MILD STEEL	
				FINISHING	POLYESTER POWDER	
				COLOUR	LIGHT GREY	

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Safety Devices

MODEL	INDOOR UNIT			MCM 020D	
	OUTDOOR UNIT			MLC 018C	MLC 020C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	LOW PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	PHASE SEQUENCER			N/A	N/A
	DISCHARGE THERMOSTAT SETTING		°C / °F	N/A	N/A

MODEL	INDOOR UNIT			MCM 025D
	OUTDOOR UNIT			MLC 025C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		N/A
		OPEN	kPa / psi	N/A
		CLOSE	kPa / psi	N/A
	LOW PRESSURE SWITCH	TYPE		N/A
		OPEN	kPa / psi	N/A
		CLOSE	kPa / psi	N/A
	PHASE SEQUENCER			N/A
	DISCHARGE THERMOSTAT SETTING		°C / °F	N/A

MODEL	INDOOR UNIT			MCM 030D	
	OUTDOOR UNIT			MLC 028C	MLC 030C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		N/A	NC
		OPEN	kPa / psi	N/A	2937 / 426
		CLOSE	kPa / psi	N/A	2413 / 350
	LOW PRESSURE SWITCH	TYPE		N/A	NC
		OPEN	kPa / psi	N/A	124 / 18
		CLOSE	kPa / psi	N/A	193 / 28
	PHASE SEQUENCER - 1Ø / <3Ø>			N/A	N/A / <YES>
	DISCHARGE THERMOSTAT SETTING - 1Ø / <3Ø>		°C / °F	N/A	N/A / <130 / 266>

MODEL	INDOOR UNIT			MCM 040D	
	OUTDOOR UNIT			MLC 035C	MLC 040C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	PHASE SEQUENCER - 1Ø / <3Ø>			N/A	N/A / <YES>
	DISCHARGE THERMOSTAT SETTING - 1Ø / <3Ø>		°C / °F	N/A	N/A / <130 / 266>

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Safety Devices

MODEL	INDOOR UNIT			MCM 050D	MCM 062C
	OUTDOOR UNIT			MLC 050C	MLC 061C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	PHASE SEQUENCER			YES	YES
	DISCHARGE THERMOSTAT SETTING		°C / °F	130 / 266	130 / 266

MODEL	INDOOR UNIT			MCM 020DR	
	OUTDOOR UNIT			MLC 018CR	MLC 020CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		N/A	
		OPEN	kPa / psi	N/A	
		CLOSE	kPa / psi	N/A	
	LOW PRESSURE SWITCH	TYPE		N/A	
		OPEN	kPa / psi	N/A	
		CLOSE	kPa / psi	N/A	
	PHASE SEQUENCER			N/A	
	DISCHARGE THERMOSTAT SETTING		°C / °F	N/A	

MODEL	INDOOR UNIT			MCM 025DR
	OUTDOOR UNIT			MLC 025CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		N/A
		OPEN	kPa / psi	N/A
		CLOSE	kPa / psi	N/A
	LOW PRESSURE SWITCH	TYPE		N/A
		OPEN	kPa / psi	N/A
		CLOSE	kPa / psi	N/A
	PHASE SEQUENCER			N/A
	DISCHARGE THERMOSTAT SETTING		°C / °F	N/A

MODEL	INDOOR UNIT			MCM 030DR	
	OUTDOOR UNIT			MLC 028CR	MLC 030CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		N/A	NC
		OPEN	kPa / psi	N/A	2937 / 426
		CLOSE	kPa / psi	N/A	2413 / 350
	LOW PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	PHASE SEQUENCER			N/A	NA / <YES>
	DISCHARGE THERMOSTAT SETTING		°C / °F	N/A	N/A / <130 / 266>

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Safety Devices

MODEL	INDOOR UNIT			MCM 040DR	
	OUTDOOR UNIT			MLC 035CR	MLC 040CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	PHASE SEQUENCER - 1Ø / <3Ø>			N/A	N/A / <YES>
	DISCHARGE THERMOSTAT SETTING - 1Ø / <3Ø>		°C / °F	N/A	N/A / <130 / 266>

MODEL	INDOOR UNIT			MCM 050DR	MCM 062CR
	OUTDOOR UNIT			MLC 050CR	MLC 061CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	PHASE SEQUENCER			YES	YES
	DISCHARGE THERMOSTAT SETTING		°C / °F	130 / 266	130 / 266

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Safety Devices

MODEL	INDOOR UNIT			M5CM 040D	
	OUTDOOR UNIT			M5LC 035C	M5LC 040C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	PHASE SEQUENCER - 1Ø / <3Ø>			N/A / <YES>	N/A / <YES>
	DISCHARGE THERMOSTAT SETTING - 1Ø / <3Ø>		°C / °F	N/A / <130 / 266>	N/A / <130 / 266>

MODEL	INDOOR UNIT			M5CM 050D	M5CM 062C
	OUTDOOR UNIT			M5LC 050C	M5LC 061C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	PHASE SEQUENCER			YES	YES
	DISCHARGE THERMOSTAT SETTING		°C / °F	130 / 266	130 / 266

MODEL	INDOOR UNIT			M5CM 040DR	
	OUTDOOR UNIT			M5LC 035CR	M5LC 040CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	PHASE SEQUENCER - 1Ø / <3Ø>			N/A / <YES>	N/A / <YES>
	DISCHARGE THERMOSTAT SETTING - 1Ø / <3Ø>		°C / °F	N/A / <130 / 266>	N/A / <130 / 266>

MODEL	INDOOR UNIT			M5CM 050DR	M5CM 062CR
	OUTDOOR UNIT			M5LC 050CR	M5LC 061CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2937 / 426	2937 / 426
		CLOSE	kPa / psi	2413 / 350	2413 / 350
	LOW PRESSURE SWITCH	TYPE		N/A	N/A
		OPEN	kPa / psi	N/A	N/A
		CLOSE	kPa / psi	N/A	N/A
	PHASE SEQUENCER			YES	YES
	DISCHARGE THERMOSTAT SETTING		°C / °F	130 / 266	130 / 266

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

Performance Data

Interpolation and *Extrapolation* method can be used to get the total capacity, TC and sensible capacity, SC at those temperatures which are not stated out in the table.

Example:

Model: MCM 020D– MLC 018C
Indoor Condition: 23°C DB, 15°C WB
Outdoor Condition: 37°C DB

Solution:

Overall
Based on the Performance table on Pg.69

1. Refer to the Indoor DB column,
   - **23°C** is located between 20°C and 24°C (Thus, Interpolation need to be applied)

2. Refer to the Indoor WB column,
   - **15°C** only available in the case of Indoor DB = 20°C. (Thus, Extrapolation between 16°C WB and 17°C WB during 24°C indoor DB is required)

3. Refer to the Outdoor DB column,
   - **37°C** is located between 35°C and 40°C. (Thus, Interpolation need to be applied)

Please follow the steps below in order to get the required capacity.

1st Step
Extrapolation of Indoor WB

Find TC, SC for
(a) Indoor: 24°C DB, 15°C WB
Outdoor: 35°C DB

(b) Indoor: 24°C DB, 15°C WB
Outdoor: 40°C DB

2nd Step
Interpolation of Indoor DB

Find TC, SC for
(a) Indoor: 23°C DB, 15°C WB
Outdoor: 35°C DB

(b) Indoor: 23°C DB, 15°C WB
Outdoor: 40°C DB

3rd Step
Interpolation of Outdoor DB

Find TC, SC for
(a) Indoor: 23°C DB, 15°C WB
Outdoor: 37°C DB

Details:

1st Step:

To obtain the Total capacity and Sensible capacity for

(a) Indoor Condition: 24°C DB, 15°C WB

Outdoor Condition: 35°C DB

Indoor DB °C	Indoor WB °C	Outdoor DB °C			
			35		
			TC (kW)	SC (kW)	
24	15		x_1	y_1	
	16		4.999	3.465	
	17		5.113	3.243	

Total capacity, TC

$\Rightarrow$ x_1 = 4.885kW (Same as Total capacity at 20°C Indoor DB / 15°C Indoor WB & 35°C Outdoor WB)*

Sensible capacity, SC

Extrapolation Method:

$$\Rightarrow \frac{17°C - 15°C}{17°C - 16°C} = \frac{3.243kW - y_1}{3.243kW - 3.465kW}$$

$\Rightarrow$ y_1 = 3.687kW

(b) Indoor Condition: 24°C DB, 15°C WB

Outdoor Condition: 40°C DB

Indoor DB °C	Indoor WB °C	Outdoor DB °C			
			40		
			TC (kW)	SC (kW)	
24	15		x_2	y_2	
	16		4.621	3.058	
	17		4.758	2.845	

Total capacity, TC

$\Rightarrow$ x_2 = 4.485kW (Same as Total capacity at 20°C Indoor DB / 15°C Indoor WB & 40°C Outdoor WB)*

Sensible capacity, SC

Extrapolation Method:

$$\Rightarrow \frac{17°C - 15°C}{17°C - 16°C} = \frac{2.845kW - y_2}{2.845kW - 3.058kW}$$

$\Rightarrow$ y_2 = 3.271kW

* This is due to 2 different conditions with same WB temperature, will have the same level of enthalpy. For more details, please refer to psychrometrics chart

2nd Step:

To obtain the Total capacity and Sensible capacity for

(a) Indoor Condition: 23°C DB, 15°C WB
Outdoor Condition: 35°C DB

Indoor DB °C	Indoor WB °C	Outdoor DB °C			
			35		
			TC (kW)	SC (kW)	
20	**15**		4.885	2.460	
23	15		x_3	y_3	
24	**15**		4.885	3.687	

Total capacity, TC

⇒ x_3 = 4.885kW *(Same as Total capacity at 20°C Indoor DB / 15°C Indoor WB & 35°C Outdoor WB)**

Sensible capacity, SC

Interpolation Method:

$$\Rightarrow \frac{24°C - 20°C}{24°C - 23°C} = \frac{3.687kW - 2.460kW}{3.687kW - y_3}$$

⇒ y_3 = 3.380kW

(b) Indoor Condition: 23°C DB, 15°C WB
Outdoor Condition: 40°C DB

Indoor DB °C	Indoor WB °C	Outdoor DB °C			
			40		
			TC (kW)	SC (kW)	
20	**15**		4.485	2.045	
23	15		x_4	y_4	
24	**15**		4.485	3.271	

Total capacity, TC

x_4 = 4.485kW *(Same as Total capacity at 20°C Indoor DB / 15°C Indoor WB & 40°C Outdoor WB)**

Sensible capacity, SC

Interpolation Method:

$$\Rightarrow \frac{24°C - 20°C}{24°C - 23°C} = \frac{3.271kW - 2.045kW}{3.271kW - y_4}$$

⇒ y_4 = 2.965kW

***** *This is due to 2 different conditions with same WB temperature will have the same level of enthalpy. For more details, please refer to psychrometrics chart*

3rd Step:

To obtain the Total capacity and Sensible capacity for

(a) Indoor Condition: 23°C DB, 15°C WB

Outdoor Condition: 37°C DB

Indoor DB °C	**Indoor WB °C**	**Outdoor DB °C**						
			35		**37**		**40**	
			TC (kW)	**SC (kW)**	**TC (kW)**	**SC (kW)**	**TC (kW)**	**SC (kW)**
23	**15**	- - - - -	4.885	3.380	**x**	**y**	4.485	2.965

Total capacity, TC

Interpolation Method:

$$\Rightarrow \frac{40°C - 35°C}{40°C - 37°C} = \frac{4.485kW - 4.885kW}{4.485kW - x}$$

$\Rightarrow$ x = 4.725kW

Sensible capacity, SC

Interpolation Method:

$$\Rightarrow \frac{40°C - 35°C}{40°C - 37°C} = \frac{2.965kW - 3.380kW}{2.965kW - y}$$

$\Rightarrow$ y = 3.214kW

R22 Models
(Cooling only)

Model : MCM 020D / MLC 018C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	6.086	3.708	5.686	3.292	5.285	2.876	4.885	2.460	4.485	2.045	4.004	1.546
	16	6.131	3.460	5.754	3.053	5.376	2.646	4.999	2.239	4.621	1.832	4.169	1.344
24	16	6.131	4.686	5.754	4.279	5.376	3.872	4.999	3.465	4.621	3.058	4.169	2.569
	17	6.176	4.438	5.821	4.040	5.467	3.642	5.113	3.243	4.758	2.845	4.333	2.367
	18	6.220	4.191	5.889	3.801	5.558	3.412	5.226	3.022	4.895	2.632	4.497	2.165
	19	6.265	3.943	5.957	3.562	5.648	3.181	5.340	2.801	5.032	2.420	4.662	1.963
	20	6.309	3.698	6.018	3.340	5.728	2.983	5.437	2.626	5.146	2.269	4.797	1.840
28	18	6.220	5.417	5.889	5.027	5.558	4.637	5.226	4.248	4.895	3.858	4.497	3.391
	19	6.265	5.169	5.957	4.788	5.648	4.407	5.340	4.026	5.032	3.645	4.662	3.188
	20	6.309	4.923	6.018	4.566	5.728	4.209	5.437	3.852	5.146	3.495	4.797	3.066
	21	6.353	4.679	6.076	4.355	5.799	4.032	5.522	3.709	5.245	3.385	4.913	2.997
	22	6.397	4.434	6.134	4.145	5.871	3.855	5.608	3.566	5.345	3.276	5.029	2.929
	23	6.440	4.190	6.191	3.934	5.942	3.678	5.693	3.422	5.444	3.167	5.145	2.860
	24	6.484	3.945	6.249	3.723	6.014	3.501	5.779	3.279	5.544	3.057	5.262	2.791
30	20	6.309	5.536	6.018	5.179	5.728	4.822	5.437	4.465	5.146	4.108	4.797	3.679
	21	6.353	5.292	6.076	4.968	5.799	4.645	5.522	4.322	5.245	3.998	4.913	3.610
	22	6.397	5.047	6.134	4.757	5.871	4.468	5.608	4.178	5.345	3.889	5.029	3.541
	23	6.440	4.802	6.191	4.547	5.942	4.291	5.693	4.035	5.444	3.779	5.145	3.473
	24	6.484	4.558	6.249	4.336	6.014	4.114	5.779	3.892	5.544	3.670	5.262	3.404

Model : MCM 020D / MLC 020B

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	5.995	3.626	5.642	3.335	5.288	3.044	4.934	2.754	4.581	2.463	4.156	2.114
	16	6.249	3.320	5.868	3.059	5.486	2.797	5.105	2.536	4.724	2.274	4.266	1.961
24	16	6.249	4.366	5.868	4.104	5.486	3.843	5.105	3.581	4.724	3.320	4.266	3.006
	17	6.503	4.061	6.094	3.828	5.685	3.596	5.275	3.364	4.866	3.131	4.375	2.853
	18	6.757	3.755	6.320	3.552	5.883	3.349	5.446	3.146	5.009	2.943	4.484	2.699
	19	7.011	3.450	6.546	3.276	6.081	3.102	5.616	2.929	5.152	2.755	4.594	2.546
	20	7.266	3.144	6.784	2.998	6.301	2.851	5.819	2.704	5.336	2.557	4.757	2.381
28	18	6.757	4.801	6.320	4.598	5.883	4.395	5.446	4.192	5.009	3.989	4.484	3.745
	19	7.011	4.495	6.546	4.322	6.081	4.148	5.616	3.974	5.152	3.800	4.594	3.592
	20	7.266	4.190	6.784	4.043	6.301	3.896	5.819	3.750	5.336	3.603	4.757	3.427
	21	7.522	3.884	7.029	3.763	6.535	3.642	6.042	3.521	5.548	3.400	4.956	3.255
	22	7.778	3.578	7.274	3.483	6.769	3.387	6.265	3.292	5.761	3.197	5.155	3.082
	23	8.034	3.273	7.519	3.203	7.003	3.133	6.488	3.063	5.973	2.994	5.355	2.910
	24	8.290	2.967	7.764	2.923	7.238	2.879	6.711	2.835	6.185	2.790	5.554	2.738
30	20	7.266	4.712	6.784	4.566	6.301	4.419	5.819	4.272	5.336	4.126	4.757	3.950
	21	7.522	4.407	7.029	4.286	6.535	4.165	6.042	4.044	5.548	3.923	4.956	3.777
	22	7.778	4.101	7.274	4.006	6.769	3.910	6.265	3.815	5.761	3.719	5.155	3.605
	23	8.034	3.795	7.519	3.725	7.003	3.656	6.488	3.586	5.973	3.516	5.355	3.433
	24	8.290	3.489	7.764	3.445	7.238	3.401	6.711	3.357	6.185	3.313	5.554	3.260

R22 Models
(Cooling only)

Model : MCM 025D / MLC 025C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	7.199	4.743	6.825	4.386	6.450	4.029	6.076	3.672	5.701	3.315	5.251	2.887
	16	7.393	4.389	7.027	4.056	6.660	3.722	6.293	3.389	5.926	3.056	5.486	2.656
24	16	7.393	5.491	7.027	5.158	6.660	4.825	6.293	4.491	5.926	4.158	5.486	3.758
	17	7.587	5.137	7.228	4.828	6.869	4.518	6.510	4.208	6.152	3.898	5.721	3.527
	18	7.781	4.783	7.430	4.497	7.079	4.211	6.728	3.925	6.377	3.639	5.956	3.295
	19	7.975	4.429	7.632	4.167	7.289	3.904	6.945	3.641	6.602	3.379	6.190	3.064
	20	8.168	4.076	7.820	3.843	7.473	3.609	7.125	3.376	6.778	3.143	6.361	2.863
28	18	7.781	5.886	7.430	5.600	7.079	5.313	6.728	5.027	6.377	4.741	5.956	4.398
	19	7.975	5.532	7.632	5.269	7.289	5.006	6.945	4.744	6.602	4.481	6.190	4.166
	20	8.168	5.178	7.820	4.945	7.473	4.712	7.125	4.479	6.778	4.246	6.361	3.966
	21	8.359	4.825	7.999	4.625	7.639	4.425	7.280	4.226	6.920	4.026	6.488	3.786
	22	8.550	4.472	8.178	4.306	7.806	4.139	7.434	3.973	7.062	3.806	6.616	3.606
	23	8.742	4.119	8.358	3.986	7.973	3.853	7.589	3.719	7.204	3.586	6.743	3.426
	24	8.933	3.766	8.537	3.666	8.140	3.566	7.743	3.466	7.347	3.366	6.871	3.246
30	20	8.168	5.729	7.820	5.496	7.473	5.263	7.125	5.030	6.778	4.797	6.361	4.517
	21	8.359	5.376	7.999	5.177	7.639	4.977	7.280	4.777	6.920	4.577	6.488	4.337
	22	8.550	5.023	8.178	4.857	7.806	4.690	7.434	4.524	7.062	4.357	6.616	4.157
	23	8.742	4.671	8.358	4.537	7.973	4.404	7.589	4.271	7.204	4.137	6.743	3.977
	24	8.933	4.318	8.537	4.218	8.140	4.118	7.743	4.018	7.347	3.918	6.871	3.798

Model : MCM 030D / MLC 028C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	9.047	6.110	8.447	5.509	7.846	4.907	7.245	4.305	6.644	3.704	5.923	2.982
	16	9.053	5.681	8.502	5.129	7.951	4.577	7.401	4.025	6.850	3.472	6.189	2.810
24	16	9.053	7.149	8.502	6.597	7.951	6.045	7.401	5.493	6.850	4.941	6.189	4.278
	17	9.059	6.720	8.558	6.217	8.057	5.714	7.556	5.212	7.055	4.709	6.454	4.106
	18	9.065	6.291	8.614	5.837	8.163	5.384	7.712	4.931	7.261	4.478	6.720	3.934
	19	9.071	5.862	8.670	5.458	8.269	5.054	7.868	4.650	7.467	4.246	6.986	3.761
	20	9.075	5.432	8.710	5.074	8.345	4.716	7.980	4.357	7.616	3.999	7.178	3.569
28	18	9.065	7.759	8.614	7.306	8.163	6.852	7.712	6.399	7.261	5.946	6.720	5.402
	19	9.071	7.330	8.670	6.926	8.269	6.522	7.868	6.118	7.467	5.714	6.986	5.230
	20	9.075	6.900	8.710	6.542	8.345	6.184	7.980	5.825	7.616	5.467	7.178	5.037
	21	9.078	6.470	8.740	6.155	8.402	5.840	8.064	5.525	7.726	5.210	7.320	4.832
	22	9.081	6.040	8.769	5.768	8.458	5.496	8.147	5.224	7.836	4.952	7.463	4.626
	23	9.084	5.611	8.799	5.382	8.515	5.153	8.231	4.924	7.946	4.695	7.605	4.420
	24	9.087	5.181	8.829	4.995	8.572	4.809	8.314	4.623	8.057	4.437	7.748	4.214
30	20	9.075	7.634	8.710	7.276	8.345	6.918	7.980	6.559	7.616	6.201	7.178	5.771
	21	9.078	7.204	8.740	6.889	8.402	6.574	8.064	6.259	7.726	5.944	7.320	5.566
	22	9.081	6.774	8.769	6.502	8.458	6.230	8.147	5.958	7.836	5.686	7.463	5.360
	23	9.084	6.345	8.799	6.116	8.515	5.887	8.231	5.658	7.946	5.429	7.605	5.154
	24	9.087	5.915	8.829	5.729	8.572	5.543	8.314	5.357	8.057	5.171	7.748	4.949

R22 Models
(Cooling only)

Model : MCM 030D / MLC 030C

ID DB°C	ID WB°C	Outdoor DB°C															
		20		25		30		35		40		46		50		54	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	8.391	5.170	8.022	4.879	7.653	4.587	7.284	4.295	6.935	3.977	6.570	3.645	6.286	3.386	5.970	3.098
	16	8.916	4.900	8.486	4.618	8.057	4.336	7.627	4.054	7.261	3.747	6.879	3.427	6.582	3.177	6.251	2.899
24	16	8.916	6.300	8.486	6.018	8.057	5.736	7.627	5.454	7.261	5.147	6.879	4.827	6.582	4.578	6.251	4.300
	17	9.442	6.030	8.951	5.758	8.460	5.485	7.970	5.212	7.588	4.917	7.189	4.609	6.878	4.369	6.532	4.101
	18	9.967	5.760	9.416	5.497	8.864	5.234	8.313	4.970	7.914	4.687	7.498	4.391	7.174	4.160	6.813	3.903
	19	10.493	5.490	9.880	5.236	9.268	4.982	8.655	4.728	8.240	4.456	7.807	4.172	7.470	3.951	7.094	3.705
	20	11.019	5.220	10.351	4.969	9.684	4.719	9.016	4.468	8.584	4.209	8.133	3.938	7.782	3.727	7.390	3.492
28	18	9.967	7.161	9.416	6.897	8.864	6.634	8.313	6.370	7.914	6.087	7.498	5.791	7.174	5.560	6.813	5.303
	19	10.493	6.891	9.880	6.637	9.268	6.383	8.655	6.129	8.240	5.857	7.807	5.573	7.470	5.352	7.094	5.105
	20	11.019	6.620	10.351	6.369	9.684	6.119	9.016	5.869	8.584	5.609	8.133	5.338	7.782	5.127	7.390	4.892
	21	11.546	6.349	10.827	6.098	10.108	5.847	9.390	5.596	8.939	5.350	8.469	5.092	8.104	4.892	7.696	4.669
	22	12.072	6.078	11.302	5.826	10.533	5.575	9.763	5.324	9.295	5.090	8.806	4.847	8.426	4.657	8.002	4.446
	23	12.599	5.806	11.778	5.555	10.957	5.303	10.136	5.052	9.650	4.831	9.143	4.601	8.748	4.422	8.307	4.222
	24	13.126	5.535	12.253	5.283	11.381	5.031	10.509	4.779	10.005	4.572	9.479	4.356	9.070	4.187	8.613	3.999
30	20	11.019	7.320	10.351	7.070	9.684	6.819	9.016	6.569	8.584	6.309	8.133	6.038	7.782	5.827	7.390	5.592
	21	11.546	7.049	10.827	6.798	10.108	6.547	9.390	6.296	8.939	6.050	8.469	5.793	8.104	5.592	7.696	5.369
	22	12.072	6.778	11.302	6.527	10.533	6.275	9.763	6.024	9.295	5.791	8.806	5.547	8.426	5.357	8.002	5.146
	23	12.599	6.507	11.778	6.255	10.957	6.003	10.136	5.752	9.650	5.531	9.143	5.301	8.748	5.122	8.307	4.923
	24	13.126	6.235	12.253	5.983	11.381	5.731	10.509	5.479	10.005	5.272	9.479	5.056	9.070	4.887	8.613	4.699
														HIGH AMBIENT			

Model : MCM 040D / MLC 035C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	11.033	7.153	10.366	6.524	9.700	5.895	9.033	5.266	8.367	4.637	7.567	3.883
	16	11.206	6.578	10.568	6.012	9.929	5.446	9.290	4.880	8.652	4.314	7.886	3.634
24	16	11.206	8.410	10.568	7.844	9.929	7.278	9.290	6.711	8.652	6.145	7.886	5.466
	17	11.379	7.835	10.769	7.332	10.158	6.828	9.547	6.325	8.937	5.822	8.204	5.218
	18	11.553	7.260	10.970	6.820	10.387	6.379	9.805	5.938	9.222	5.498	8.523	4.969
	19	11.726	6.685	11.171	6.308	10.616	5.930	10.062	5.552	9.507	5.174	8.841	4.721
	20	11.898	6.110	11.358	5.789	10.819	5.469	10.280	5.148	9.741	4.827	9.094	4.442
28	18	11.553	9.092	10.970	8.651	10.387	8.211	9.805	7.770	9.222	7.329	8.523	6.801
	19	11.726	8.517	11.171	8.139	10.616	7.761	10.062	7.383	9.507	7.006	8.841	6.552
	20	11.898	7.942	11.358	7.621	10.819	7.300	10.280	6.979	9.741	6.659	9.094	6.274
	21	12.068	7.366	11.537	7.098	11.005	6.831	10.473	6.563	9.941	6.296	9.303	5.975
	22	12.239	6.790	11.715	6.576	11.190	6.362	10.666	6.148	10.142	5.933	9.512	5.677
	23	12.410	6.214	11.893	6.053	11.376	5.892	10.859	5.732	10.342	5.571	9.722	5.378
	24	12.581	5.638	12.071	5.531	11.561	5.423	11.052	5.316	10.542	5.208	9.931	5.080
30	20	11.898	8.857	11.358	8.537	10.819	8.216	10.280	7.895	9.741	7.574	9.094	7.189
	21	12.068	8.281	11.537	8.014	11.005	7.747	10.473	7.479	9.941	7.212	9.303	6.891
	22	12.239	7.706	11.715	7.491	11.190	7.277	10.666	7.063	10.142	6.849	9.512	6.592
	23	12.410	7.130	11.893	6.969	11.376	6.808	10.859	6.647	10.342	6.487	9.722	6.294
	24	12.581	6.554	12.071	6.446	11.561	6.339	11.052	6.232	10.542	6.124	9.931	5.995

R22 Models
(Cooling only)

Model : MCM 040D / MLC 040C

ID DB°C	ID WB°C	Outdoor DB°C															
		20		25		30		35		40		46		50		54	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	11.844	7.117	11.211	6.638	10.578	6.159	9.945	5.680	9.107	4.908	8.266	4.133	7.952	3.843	7.836	3.736
	16	12.516	6.664	11.793	6.236	11.071	5.808	10.349	5.381	9.477	4.633	8.602	3.883	8.275	3.603	8.154	3.499
24	16	12.516	8.748	11.793	8.320	11.071	7.892	10.349	7.464	9.477	6.716	8.602	5.967	8.275	5.687	8.154	5.583
	17	13.188	8.295	12.376	7.918	11.565	7.541	10.753	7.164	9.847	6.442	8.938	5.717	8.599	5.447	8.473	5.346
	18	13.860	7.843	12.959	7.516	12.058	7.190	11.157	6.864	10.217	6.167	9.274	5.468	8.922	5.207	8.791	5.110
	19	14.532	7.390	13.542	7.115	12.552	6.839	11.562	6.564	10.587	5.892	9.610	5.219	9.245	4.967	9.110	4.874
	20	15.207	6.934	14.153	6.683	13.099	6.431	12.045	6.179	11.030	5.540	10.012	4.898	9.631	4.659	9.490	4.570
28	18	13.860	9.926	12.959	9.600	12.058	9.274	11.157	8.947	10.217	8.251	9.274	7.551	8.922	7.290	8.791	7.193
	19	14.532	9.474	13.542	9.198	12.552	8.923	11.562	8.647	10.587	7.976	9.610	7.302	9.245	7.050	9.110	6.957
	20	15.207	9.018	14.153	8.766	13.099	8.514	12.045	8.262	11.030	7.623	10.012	6.982	9.631	6.742	9.490	6.653
	21	15.884	8.560	14.783	8.313	13.682	8.066	12.580	7.820	11.520	7.218	10.457	6.614	10.060	6.389	9.912	6.305
	22	16.561	8.102	15.413	7.860	14.265	7.619	13.116	7.377	12.011	6.813	10.902	6.246	10.488	6.035	10.334	5.956
	23	17.238	7.644	16.043	7.408	14.847	7.171	13.652	6.935	12.502	6.408	11.347	5.879	10.917	5.681	10.757	5.608
	24	17.916	7.186	16.673	6.955	15.430	6.724	14.188	6.492	12.992	6.002	11.793	5.511	11.345	5.327	11.179	5.259
30	20	15.207	10.059	14.153	9.808	13.099	9.556	12.045	9.304	11.030	8.665	10.012	8.023	9.631	7.784	9.490	7.695
	21	15.884	9.601	14.783	9.355	13.682	9.108	12.580	8.861	11.520	8.259	10.457	7.656	10.060	7.430	9.912	7.347
	22	16.561	9.144	15.413	8.902	14.265	8.660	13.116	8.419	12.011	7.854	10.902	7.288	10.488	7.076	10.334	6.998
	23	17.238	8.686	16.043	8.449	14.847	8.213	13.652	7.977	12.502	7.449	11.347	6.920	10.917	6.723	10.757	6.649
	24	17.916	8.228	16.673	7.996	15.430	7.765	14.188	7.534	12.992	7.044	11.793	6.552	11.345	6.369	11.179	6.301
														HIGH AMBIENT			

Model : MCM 050D / MLC 050C

ID DB°C	ID WB°C	Outdoor DB°C															
		20		25		30		35		40		46		50		54	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	13.921	8.402	13.287	8.036	12.652	7.669	12.018	7.302	11.323	6.681	10.687	6.111	10.315	5.779	9.986	5.485
	16	15.046	8.034	14.235	7.657	13.425	7.280	12.614	6.903	11.885	6.304	11.216	5.756	10.826	5.436	10.481	5.153
24	16	15.046	10.091	14.235	9.713	13.425	9.336	12.614	8.959	11.885	8.361	11.216	7.813	10.826	7.493	10.481	7.209
	17	16.171	9.722	15.184	9.335	14.197	8.947	13.210	8.560	12.446	7.985	11.746	7.458	11.338	7.150	10.976	6.878
	18	17.296	9.353	16.133	8.956	14.969	8.558	13.805	8.161	13.007	7.609	12.276	7.103	11.849	6.807	11.471	6.546
	19	18.422	8.985	17.081	8.577	15.741	8.169	14.401	7.761	13.569	7.232	12.806	6.748	12.360	6.465	11.966	6.214
	20	19.552	8.616	18.080	8.196	16.608	7.777	15.136	7.357	14.261	6.851	13.459	6.388	12.991	6.118	12.576	5.878
28	18	17.296	11.410	16.133	11.013	14.969	10.615	13.805	10.217	13.007	9.665	12.276	9.159	11.849	8.864	11.471	8.602
	19	18.422	11.042	17.081	10.634	15.741	10.226	14.401	9.818	13.569	9.289	12.806	8.804	12.360	8.521	11.966	8.271
	20	19.552	10.673	18.080	10.253	16.608	9.833	15.136	9.414	14.261	8.908	13.459	8.445	12.991	8.174	12.576	7.935
	21	20.686	10.304	19.111	9.871	17.537	9.439	15.962	9.006	15.040	8.524	14.194	8.082	13.700	7.824	13.263	7.596
	22	21.820	9.935	20.143	9.490	18.466	9.044	16.789	8.598	15.819	8.140	14.929	7.720	14.410	7.474	13.950	7.257
	23	22.954	9.566	21.175	9.108	19.395	8.649	17.616	8.191	16.598	7.756	15.664	7.357	15.120	7.125	14.637	6.918
	24	24.088	9.197	22.206	8.726	20.324	8.254	18.443	7.783	17.377	7.372	16.399	6.995	15.829	6.775	15.324	6.580
30	20	19.552	11.701	18.080	11.281	16.608	10.862	15.136	10.442	14.261	9.936	13.459	9.473	12.991	9.203	12.576	8.963
	21	20.686	11.332	19.111	10.900	17.537	10.467	15.962	10.034	15.040	9.552	14.194	9.111	13.700	8.853	13.263	8.624
	22	21.820	10.964	20.143	10.518	18.466	10.072	16.789	9.627	15.819	9.168	14.929	8.748	14.410	8.503	13.950	8.286
	23	22.954	10.595	21.175	10.136	19.395	9.677	17.616	9.219	16.598	8.784	15.664	8.386	15.120	8.153	14.637	7.947
	24	24.088	10.226	22.206	9.754	20.324	9.283	18.443	8.811	17.377	8.400	16.399	8.023	15.829	7.803	15.324	7.608
														HIGH AMBIENT			

R22 Models
(Cooling only)

Model : MCM 062C / MLC 061C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	17.094	10.283	16.118	9.482	15.142	8.680	14.166	7.878	13.190	7.077	12.019	6.115
	16	17.848	9.526	16.791	8.802	15.734	8.078	14.677	7.354	13.620	6.630	12.351	5.761
24	16	17.848	12.600	16.791	11.876	15.734	11.152	14.677	10.428	13.620	9.704	12.351	8.835
	17	18.601	11.843	17.463	11.196	16.325	10.550	15.187	9.903	14.049	9.257	12.684	8.481
	18	19.355	11.085	18.136	10.516	16.917	9.947	15.698	9.379	14.479	8.810	13.016	8.127
	19	20.108	10.328	18.808	9.836	17.508	9.345	16.208	8.854	14.909	8.363	13.349	7.773
	20	20.864	9.568	19.509	9.134	18.153	8.700	16.797	8.266	15.442	7.832	13.815	7.311
28	18	19.355	14.159	18.136	13.590	16.917	13.022	15.698	12.453	14.479	11.884	13.016	11.201
	19	20.108	13.402	18.808	12.911	17.508	12.419	16.208	11.928	14.909	11.437	13.349	10.848
	20	20.864	12.642	19.509	12.208	18.153	11.774	16.797	11.340	15.442	10.906	13.815	10.385
	21	21.623	11.880	20.228	11.490	18.833	11.099	17.438	10.709	16.044	10.319	14.370	9.850
	22	22.381	11.119	20.947	10.772	19.513	10.425	18.079	10.078	16.646	9.731	14.925	9.315
	23	23.139	10.357	21.666	10.054	20.194	9.751	18.721	9.447	17.248	9.144	15.480	8.780
	24	23.898	9.595	22.386	9.336	20.874	9.076	19.362	8.817	17.850	8.557	16.035	8.245
30	20	20.864	14.179	19.509	13.745	18.153	13.311	16.797	12.877	15.442	12.443	13.815	11.922
	21	21.623	13.417	20.228	13.027	18.833	12.636	17.438	12.246	16.044	11.856	14.370	11.387
	22	22.381	12.656	20.947	12.309	19.513	11.962	18.079	11.615	16.646	11.268	14.925	10.852
	23	23.139	11.894	21.666	11.591	20.194	11.288	18.721	10.984	17.248	10.681	15.480	10.317
	24	23.898	11.133	22.386	10.873	20.874	10.613	19.362	10.354	17.850	10.094	16.035	9.782

R22 Models
(Heatpump)

Model : MCM 020DR / MLC 018CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	6.086	3.708	5.686	3.292	5.285	2.876	4.885	2.460	4.485	2.045	4.004	1.546
	16	6.131	3.460	5.754	3.053	5.376	2.646	4.999	2.239	4.621	1.832	4.169	1.344
24	16	6.131	4.686	5.754	4.279	5.376	3.872	4.999	3.465	4.621	3.058	4.169	2.569
	17	6.176	4.438	5.821	4.040	5.467	3.642	5.113	3.243	4.758	2.845	4.333	2.367
	18	6.220	4.191	5.889	3.801	5.558	3.412	5.226	3.022	4.895	2.632	4.497	2.165
	19	6.265	3.943	5.957	3.562	5.648	3.181	5.340	2.801	5.032	2.420	4.662	1.963
	20	6.309	3.698	6.018	3.340	5.728	2.983	5.437	2.626	5.146	2.269	4.797	1.840
28	18	6.220	5.417	5.889	5.027	5.558	4.637	5.226	4.248	4.895	3.858	4.497	3.391
	19	6.265	5.169	5.957	4.788	5.648	4.407	5.340	4.026	5.032	3.645	4.662	3.188
	20	6.309	4.923	6.018	4.566	5.728	4.209	5.437	3.852	5.146	3.495	4.797	3.066
	21	6.353	4.679	6.076	4.355	5.799	4.032	5.522	3.709	5.245	3.385	4.913	2.997
	22	6.397	4.434	6.134	4.145	5.871	3.855	5.608	3.566	5.345	3.276	5.029	2.929
	23	6.440	4.190	6.191	3.934	5.942	3.678	5.693	3.422	5.444	3.167	5.145	2.860
	24	6.484	3.945	6.249	3.723	6.014	3.501	5.779	3.279	5.544	3.057	5.262	2.791
30	20	6.309	5.536	6.018	5.179	5.728	4.822	5.437	4.465	5.146	4.108	4.797	3.679
	21	6.353	5.292	6.076	4.968	5.799	4.645	5.522	4.322	5.245	3.998	4.913	3.610
	22	6.397	5.047	6.134	4.757	5.871	4.468	5.608	4.178	5.345	3.889	5.029	3.541
	23	6.440	4.802	6.191	4.547	5.942	4.291	5.693	4.035	5.444	3.779	5.145	3.473
	24	6.484	4.558	6.249	4.336	6.014	4.114	5.779	3.892	5.544	3.670	5.262	3.404

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	2.597	2.597	3.151	3.151	3.335	3.335	5.366	5.366	6.474	6.474	7.028	7.028	7.582	7.582
17	2.556	2.556	3.094	3.094	3.274	3.274	5.299	5.299	6.299	6.299	6.833	6.833	7.367	7.367
19	2.516	2.516	3.038	3.038	3.213	3.213	5.231	5.231	6.124	6.124	6.637	6.637	7.151	7.151
21	2.475	2.475	2.982	2.982	3.151	3.151	5.164	5.164	5.948	5.948	6.442	6.442	6.935	6.935
23	2.447	2.447	2.929	2.929	3.090	3.090	4.958	4.958	5.773	5.773	6.246	6.246	6.720	6.720
25	2.419	2.419	2.876	2.876	3.028	3.028	4.751	4.751	5.597	5.597	6.051	6.051	6.504	6.504
27	2.390	2.390	2.823	2.823	2.967	2.967	4.545	4.545	5.422	5.422	5.855	5.855	6.289	6.289
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 020DR / MLC 020CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	**15**	5.995	3.626	5.642	3.335	5.288	3.044	4.934	2.754	4.581	2.463	4.156	2.114
	16	6.249	3.320	5.868	3.059	5.486	2.797	5.105	2.536	4.724	2.274	4.266	1.961
24	**16**	6.249	4.366	5.868	4.104	5.486	3.843	5.105	3.581	4.724	3.320	4.266	3.006
	17	6.503	4.061	6.094	3.828	5.685	3.596	5.275	3.364	4.866	3.131	4.375	2.853
	18	6.757	3.755	6.320	3.552	5.883	3.349	5.446	3.146	5.009	2.943	4.484	2.699
	19	7.011	3.450	6.546	3.276	6.081	3.102	5.616	2.929	5.152	2.755	4.594	2.546
	20	7.266	3.144	6.784	2.998	6.301	2.851	5.819	2.704	5.336	2.557	4.757	2.381
28	**18**	6.757	4.801	6.320	4.598	5.883	4.395	5.446	4.192	5.009	3.989	4.484	3.745
	19	7.011	4.495	6.546	4.322	6.081	4.148	5.616	3.974	5.152	3.800	4.594	3.592
	20	7.266	4.190	6.784	4.043	6.301	3.896	5.819	3.750	5.336	3.603	4.757	3.427
	21	7.522	3.884	7.029	3.763	6.535	3.642	6.042	3.521	5.548	3.400	4.956	3.255
	22	7.778	3.578	7.274	3.483	6.769	3.387	6.265	3.292	5.761	3.197	5.155	3.082
	23	8.034	3.273	7.519	3.203	7.003	3.133	6.488	3.063	5.973	2.994	5.355	2.910
	24	8.290	2.967	7.764	2.923	7.238	2.879	6.711	2.835	6.185	2.790	5.554	2.738
30	**20**	7.266	4.712	6.784	4.566	6.301	4.419	5.819	4.272	5.336	4.126	4.757	3.950
	21	7.522	4.407	7.029	4.286	6.535	4.165	6.042	4.044	5.548	3.923	4.956	3.777
	22	7.778	4.101	7.274	4.006	6.769	3.910	6.265	3.815	5.761	3.719	5.155	3.605
	23	8.034	3.795	7.519	3.725	7.003	3.656	6.488	3.586	5.973	3.516	5.355	3.433
	24	8.290	3.489	7.764	3.445	7.238	3.401	6.711	3.357	6.185	3.313	5.554	3.260

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	2.518	2.518	3.154	3.154	3.366	3.366	5.700	5.700	6.973	6.973	7.609	7.609	8.246	8.246
17	2.454	2.454	3.090	3.090	3.302	3.302	5.614	5.614	6.783	6.783	7.397	7.397	8.011	8.011
19	2.390	2.390	3.026	3.026	3.238	3.238	5.529	5.529	6.593	6.593	7.185	7.185	7.777	7.777
21	2.326	2.326	2.962	2.962	3.173	3.173	5.443	5.443	6.402	6.402	6.972	6.972	7.542	7.542
23	2.322	2.322	2.912	2.912	3.109	3.109	5.234	5.234	6.212	6.212	6.760	6.760	7.308	7.308
25	2.318	2.318	2.863	2.863	3.045	3.045	5.025	5.025	6.022	6.022	6.548	6.548	7.073	7.073
27	2.314	2.314	2.814	2.814	2.981	2.981	4.816	4.816	5.832	5.832	6.335	6.335	6.839	6.839
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 025DR / MLC 025CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	7.199	4.743	6.825	4.386	6.450	4.029	6.076	3.672	5.701	3.315	5.251	2.887
	16	7.393	4.389	7.027	4.056	6.660	3.722	6.293	3.389	5.926	3.056	5.486	2.656
24	16	7.393	5.491	7.027	5.158	6.660	4.825	6.293	4.491	5.926	4.158	5.486	3.758
	17	7.587	5.137	7.228	4.828	6.869	4.518	6.510	4.208	6.152	3.898	5.721	3.527
	18	7.781	4.783	7.430	4.497	7.079	4.211	6.728	3.925	6.377	3.639	5.956	3.295
	19	7.975	4.429	7.632	4.167	7.289	3.904	6.945	3.641	6.602	3.379	6.190	3.064
	20	8.168	4.076	7.820	3.843	7.473	3.609	7.125	3.376	6.778	3.143	6.361	2.863
28	18	7.781	5.886	7.430	5.600	7.079	5.313	6.728	5.027	6.377	4.741	5.956	4.398
	19	7.975	5.532	7.632	5.269	7.289	5.006	6.945	4.744	6.602	4.481	6.190	4.166
	20	8.168	5.178	7.820	4.945	7.473	4.712	7.125	4.479	6.778	4.246	6.361	3.966
	21	8.359	4.825	7.999	4.625	7.639	4.425	7.280	4.226	6.920	4.026	6.488	3.786
	22	8.550	4.472	8.178	4.306	7.806	4.139	7.434	3.973	7.062	3.806	6.616	3.606
	23	8.742	4.119	8.358	3.986	7.973	3.853	7.589	3.719	7.204	3.586	6.743	3.426
	24	8.933	3.766	8.537	3.666	8.140	3.566	7.743	3.466	7.347	3.366	6.871	3.246
30	20	8.168	5.729	7.820	5.496	7.473	5.263	7.125	5.030	6.778	4.797	6.361	4.517
	21	8.359	5.376	7.999	5.177	7.639	4.977	7.280	4.777	6.920	4.577	6.488	4.337
	22	8.550	5.023	8.178	4.857	7.806	4.690	7.434	4.524	7.062	4.357	6.616	4.157
	23	8.742	4.671	8.358	4.537	7.973	4.404	7.589	4.271	7.204	4.137	6.743	3.977
	24	8.933	4.318	8.537	4.218	8.140	4.118	7.743	4.018	7.347	3.918	6.871	3.798

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	3.016	3.016	3.773	3.773	4.025	4.025	6.799	6.799	8.312	8.312	9.068	9.068	9.825	9.825
17	2.941	2.941	3.697	3.697	3.948	3.948	6.766	6.766	8.085	8.085	8.815	8.815	9.545	9.545
19	2.866	2.866	3.620	3.620	3.872	3.872	6.732	6.732	7.859	7.859	8.562	8.562	9.266	9.266
21	2.791	2.791	3.544	3.544	3.795	3.795	6.699	6.699	7.632	7.632	8.309	8.309	8.987	8.987
23	2.785	2.785	3.485	3.485	3.718	3.718	6.378	6.378	7.406	7.406	8.056	8.056	8.707	8.707
25	2.779	2.779	3.426	3.426	3.641	3.641	6.056	6.056	7.179	7.179	7.803	7.803	8.428	8.428
27	2.773	2.773	3.367	3.367	3.565	3.565	5.735	5.735	6.953	6.953	7.550	7.550	8.148	8.148
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 030DR / MLC 028CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	9.047	6.110	8.447	5.509	7.846	4.907	7.245	4.305	6.644	3.704	5.923	2.982
	16	9.053	5.681	8.502	5.129	7.951	4.577	7.401	4.025	6.850	3.472	6.189	2.810
24	16	9.053	7.149	8.502	6.597	7.951	6.045	7.401	5.493	6.850	4.941	6.189	4.278
	17	9.059	6.720	8.558	6.217	8.057	5.714	7.556	5.212	7.055	4.709	6.454	4.106
	18	9.065	6.291	8.614	5.837	8.163	5.384	7.712	4.931	7.261	4.478	6.720	3.934
	19	9.071	5.862	8.670	5.458	8.269	5.054	7.868	4.650	7.467	4.246	6.986	3.761
	20	9.075	5.432	8.710	5.074	8.345	4.716	7.980	4.357	7.616	3.999	7.178	3.569
28	18	9.065	7.759	8.614	7.306	8.163	6.852	7.712	6.399	7.261	5.946	6.720	5.402
	19	9.071	7.330	8.670	6.926	8.269	6.522	7.868	6.118	7.467	5.714	6.986	5.230
	20	9.075	6.900	8.710	6.542	8.345	6.184	7.980	5.825	7.616	5.467	7.178	5.037
	21	9.078	6.470	8.740	6.155	8.402	5.840	8.064	5.525	7.726	5.210	7.320	4.832
	22	9.081	6.040	8.769	5.768	8.458	5.496	8.147	5.224	7.836	4.952	7.463	4.626
	23	9.084	5.611	8.799	5.382	8.515	5.153	8.231	4.924	7.946	4.695	7.605	4.420
	24	9.087	5.181	8.829	4.995	8.572	4.809	8.314	4.623	8.057	4.437	7.748	4.214
30	20	9.075	7.634	8.710	7.276	8.345	6.918	7.980	6.559	7.616	6.201	7.178	5.771
	21	9.078	7.204	8.740	6.889	8.402	6.574	8.064	6.259	7.726	5.944	7.320	5.566
	22	9.081	6.774	8.769	6.502	8.458	6.230	8.147	5.958	7.836	5.686	7.463	5.360
	23	9.084	6.345	8.799	6.116	8.515	5.887	8.231	5.658	7.946	5.429	7.605	5.154
	24	9.087	5.915	8.829	5.729	8.572	5.543	8.314	5.357	8.057	5.171	7.748	4.949

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	3.605	3.605	4.491	4.491	4.787	4.787	8.036	8.036	9.808	9.808	10.694	10.694	11.580	11.580
17	3.520	3.520	4.402	4.402	4.696	4.696	7.869	7.869	9.541	9.541	10.396	10.396	11.250	11.250
19	3.435	3.435	4.312	4.312	4.605	4.605	7.703	7.703	9.273	9.273	10.097	10.097	10.921	10.921
21	3.350	3.350	4.223	4.223	4.514	4.514	7.536	7.536	9.006	9.006	9.799	9.799	10.592	10.592
23	3.338	3.338	4.152	4.152	4.423	4.423	7.291	7.291	8.739	8.739	9.501	9.501	10.263	10.263
25	3.326	3.326	4.081	4.081	4.332	4.332	7.046	7.046	8.472	8.472	9.203	9.203	9.933	9.933
27	3.315	3.315	4.010	4.010	4.242	4.242	6.800	6.800	8.205	8.205	8.904	8.904	9.604	9.604
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 030DR / MLC 030CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C															
		20		25		30		35		40		46		50		54	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	8.363	5.245	7.996	4.960	7.629	4.675	7.262	4.390	6.914	4.073	6.550	3.742	6.267	3.484	5.952	3.197
	16	8.923	4.993	8.485	4.712	8.047	4.431	7.610	4.149	7.245	3.844	6.864	3.525	6.568	3.276	6.237	3.000
24	16	8.923	6.321	8.485	6.040	8.047	5.759	7.610	5.477	7.245	5.172	6.864	4.853	6.568	4.604	6.237	4.328
	17	9.483	6.069	8.974	5.792	8.466	5.514	7.958	5.237	7.576	4.942	7.178	4.636	6.868	4.397	6.522	4.130
	18	10.043	5.817	9.464	5.543	8.885	5.270	8.305	4.996	7.907	4.713	7.492	4.418	7.168	4.189	6.807	3.933
	19	10.603	5.565	9.953	5.295	9.303	5.025	8.653	4.755	8.238	4.484	7.805	4.201	7.468	3.981	7.092	3.736
	20	11.164	5.313	10.453	5.043	9.743	4.773	9.032	4.504	8.599	4.245	8.147	3.975	7.795	3.764	7.403	3.530
28	18	10.043	7.145	9.464	6.871	8.885	6.598	8.305	6.324	7.907	6.041	7.492	5.746	7.168	5.517	6.807	5.261
	19	10.603	6.893	9.953	6.623	9.303	6.353	8.653	6.083	8.238	5.812	7.805	5.529	7.468	5.309	7.092	5.064
	20	11.164	6.641	10.453	6.371	9.743	6.101	9.032	5.832	8.599	5.573	8.147	5.302	7.795	5.092	7.403	4.858
	21	11.726	6.388	10.961	6.116	10.196	5.845	9.432	5.573	8.979	5.327	8.507	5.069	8.140	4.869	7.730	4.646
	22	12.288	6.135	11.469	5.862	10.650	5.588	9.831	5.314	9.360	5.080	8.868	4.836	8.485	4.646	8.058	4.434
	23	12.850	5.882	11.977	5.607	11.104	5.331	10.231	5.056	9.740	4.834	9.228	4.603	8.830	4.423	8.385	4.222
	24	13.412	5.630	12.484	5.352	11.557	5.075	10.630	4.797	10.120	4.588	9.588	4.370	9.174	4.199	8.713	4.010
30	20	11.164	7.305	10.453	7.035	9.743	6.765	9.032	6.496	8.599	6.237	8.147	5.966	7.795	5.756	7.403	5.522
	21	11.726	7.052	10.961	6.780	10.196	6.509	9.432	6.237	8.979	5.991	8.507	5.733	8.140	5.533	7.730	5.310
	22	12.288	6.799	11.469	6.526	10.650	6.252	9.831	5.978	9.360	5.744	8.868	5.500	8.485	5.310	8.058	5.098
	23	12.850	6.546	11.977	6.271	11.104	5.995	10.231	5.720	9.740	5.498	9.228	5.267	8.830	5.087	8.385	4.886
	24	13.412	6.294	12.484	6.016	11.557	5.739	10.630	5.461	10.120	5.252	9.588	5.033	9.174	4.863	8.713	4.674
														HIGH AMBIENT			

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	5.660	5.660	6.604	6.604	6.918	6.918	10.380	10.380	12.268	12.268	13.212	13.212	14.156	14.156
17	5.636	5.636	6.507	6.507	6.797	6.797	10.046	10.046	11.939	11.939	12.847	12.847	13.754	13.754
19	5.613	5.613	6.410	6.410	6.676	6.676	9.712	9.712	11.610	11.610	12.481	12.481	13.352	13.352
21	5.589	5.589	6.314	6.314	6.555	6.555	9.379	9.379	11.281	11.281	12.115	12.115	12.949	12.949
23	5.466	5.466	6.192	6.192	6.434	6.434	9.205	9.205	10.952	10.952	11.750	11.750	12.547	12.547
25	5.342	5.342	6.070	6.070	6.313	6.313	9.032	9.032	10.623	10.623	11.384	11.384	12.145	12.145
27	5.219	5.219	5.948	5.948	6.192	6.192	8.859	8.859	10.294	10.294	11.018	11.018	11.742	11.742
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 040DR / MLC 035CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	11.044	7.153	10.377	6.524	9.710	5.895	9.042	5.266	8.375	4.637	7.575	3.883
	16	11.217	6.578	10.578	6.012	9.939	5.446	9.300	4.880	8.661	4.314	7.894	3.634
24	16	11.217	8.410	10.578	7.844	9.939	7.278	9.300	6.711	8.661	6.145	7.894	5.466
	17	11.391	7.835	10.779	7.332	10.168	6.828	9.557	6.325	8.946	5.822	8.212	5.218
	18	11.564	7.260	10.981	6.820	10.398	6.379	9.814	5.938	9.231	5.498	8.531	4.969
	19	11.738	6.685	11.182	6.308	10.627	5.930	10.072	5.552	9.516	5.174	8.850	4.721
	20	11.909	6.110	11.370	5.789	10.830	5.469	10.290	5.148	9.751	4.827	9.103	4.442
28	18	11.564	9.092	10.981	8.651	10.398	8.211	9.814	7.770	9.231	7.329	8.531	6.801
	19	11.738	8.517	11.182	8.139	10.627	7.761	10.072	7.383	9.516	7.006	8.850	6.552
	20	11.909	7.942	11.370	7.621	10.830	7.300	10.290	6.979	9.751	6.659	9.103	6.274
	21	12.080	7.366	11.548	7.098	11.016	6.831	10.484	6.563	9.951	6.296	9.313	5.975
	22	12.251	6.790	11.726	6.576	11.202	6.362	10.677	6.148	10.152	5.933	9.522	5.677
	23	12.422	6.214	11.905	6.053	11.387	5.892	10.870	5.732	10.352	5.571	9.731	5.378
	24	12.593	5.638	12.083	5.531	11.573	5.423	11.063	5.316	10.553	5.208	9.941	5.080
30	20	11.909	8.857	11.370	8.537	10.830	8.216	10.290	7.895	9.751	7.574	9.103	7.189
	21	12.080	8.281	11.548	8.014	11.016	7.747	10.484	7.479	9.951	7.212	9.313	6.891
	22	12.251	7.706	11.726	7.491	11.202	7.277	10.677	7.063	10.152	6.849	9.522	6.592
	23	12.422	7.130	11.905	6.969	11.387	6.808	10.870	6.647	10.352	6.487	9.731	6.294
	24	12.593	6.554	12.083	6.446	11.573	6.339	11.063	6.232	10.553	6.124	9.941	5.995

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	4.495	4.495	5.711	5.711	6.116	6.116	10.573	10.573	13.005	13.005	14.221	14.221	15.436	15.436
17	4.361	4.361	5.588	5.588	5.997	5.997	10.399	10.399	12.649	12.649	13.823	13.823	14.997	14.997
19	4.228	4.228	5.466	5.466	5.879	5.879	10.224	10.224	12.294	12.294	13.426	13.426	14.558	14.558
21	4.094	4.094	5.344	5.344	5.760	5.760	10.049	10.049	11.939	11.939	13.029	13.029	14.119	14.119
23	4.106	4.106	5.258	5.258	5.642	5.642	9.675	9.675	11.583	11.583	12.632	12.632	13.680	13.680
25	4.117	4.117	5.172	5.172	5.523	5.523	9.301	9.301	11.228	11.228	12.234	12.234	13.241	13.241
27	4.129	4.129	5.086	5.086	5.404	5.404	8.927	8.927	10.872	10.872	11.837	11.837	12.802	12.802
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 040DR / MLC 040CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C															
		20		25		30		35		40		46		50		54	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	**15**	11.608	6.753	11.006	6.320	10.404	5.887	9.802	5.454	8.976	4.700	8.148	3.942	7.838	3.660	7.723	3.555
	16	12.449	6.365	11.712	5.951	10.976	5.537	10.239	5.123	9.376	4.396	8.511	3.667	8.187	3.395	8.067	3.294
24	**16**	12.449	8.457	11.712	8.043	10.976	7.629	10.239	7.214	9.376	6.488	8.511	5.758	8.187	5.486	8.067	5.385
	17	13.290	8.069	12.419	7.674	11.547	7.278	10.675	6.883	9.776	6.184	8.873	5.483	8.537	5.221	8.411	5.124
	18	14.131	7.681	13.125	7.304	12.118	6.928	11.112	6.552	10.176	5.881	9.236	5.208	8.886	4.956	8.755	4.863
	19	14.972	7.293	13.831	6.935	12.690	6.578	11.549	6.220	10.576	5.577	9.599	4.932	9.235	4.691	9.099	4.602
	20	15.818	6.904	14.584	6.557	13.350	6.211	12.116	5.864	11.096	5.251	10.071	4.636	9.689	4.406	9.547	4.321
28	**18**	14.131	9.772	13.125	9.396	12.118	9.020	11.112	8.643	10.176	7.972	9.236	7.299	8.886	7.048	8.755	6.954
	19	14.972	9.384	13.831	9.027	12.690	8.669	11.549	8.312	10.576	7.669	9.599	7.024	9.235	6.783	9.099	6.693
	20	15.818	8.995	14.584	8.649	13.350	8.302	12.116	7.955	11.096	7.342	10.071	6.727	9.689	6.498	9.547	6.412
	21	16.667	8.606	15.369	8.265	14.070	7.923	12.772	7.582	11.696	7.001	10.616	6.417	10.213	6.199	10.063	6.118
	22	17.516	8.216	16.153	7.880	14.790	7.545	13.427	7.209	12.296	6.659	11.160	6.107	10.737	5.901	10.579	5.825
	23	18.366	7.826	16.938	7.496	15.510	7.166	14.082	6.836	12.896	6.318	11.705	5.797	11.261	5.603	11.096	5.531
	24	19.215	7.437	17.723	7.112	16.230	6.788	14.737	6.463	13.496	5.976	12.250	5.487	11.785	5.304	11.612	5.237
30	**20**	15.818	10.041	14.584	9.694	13.350	9.348	12.116	9.001	11.096	8.388	10.071	7.773	9.689	7.543	9.547	7.458
	21	16.667	9.651	15.369	9.310	14.070	8.969	12.772	8.628	11.696	8.046	10.616	7.463	10.213	7.245	10.063	7.164
	22	17.516	9.262	16.153	8.926	14.790	8.591	13.427	8.255	12.296	7.705	11.160	7.153	10.737	6.947	10.579	6.870
	23	18.366	8.872	16.938	8.542	15.510	8.212	14.082	7.882	12.896	7.363	11.705	6.843	11.261	6.648	11.096	6.576
	24	19.215	8.482	17.723	8.158	16.230	7.833	14.737	7.509	13.496	7.022	12.250	6.533	11.785	6.350	11.612	6.282
														HIGH AMBIENT			

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	6.317	6.317	7.559	7.559	7.973	7.973	12.526	12.526	15.009	15.009	16.251	16.251	17.492	17.492
17	6.244	6.244	7.432	7.432	7.828	7.828	12.356	12.356	14.604	14.604	15.800	15.800	16.995	16.995
19	6.172	6.172	7.306	7.306	7.684	7.684	12.186	12.186	14.199	14.199	15.348	15.348	16.498	16.498
21	6.099	6.099	7.180	7.180	7.540	7.540	12.016	12.016	13.793	13.793	14.897	14.897	16.001	16.001
23	6.006	6.006	7.048	7.048	7.396	7.396	11.552	11.552	13.388	13.388	14.446	14.446	15.503	15.503
25	5.912	5.912	6.917	6.917	7.251	7.251	11.088	11.088	12.983	12.983	13.995	13.995	15.006	15.006
27	5.818	5.818	6.785	6.785	7.107	7.107	10.624	10.624	12.578	12.578	13.543	13.543	14.509	14.509
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 050DR / MLC 050CR

Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C															
		20		25		30		35		40		46		50		54	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	13.185	8.048	12.585	7.694	11.986	7.340	11.386	6.986	10.728	6.397	10.125	5.858	9.773	5.543	9.461	5.264
	16	14.507	7.746	13.669	7.349	12.831	6.952	11.993	6.555	11.299	5.991	10.664	5.474	10.293	5.173	9.964	4.905
24	16	14.507	9.658	13.669	9.261	12.831	8.864	11.993	8.467	11.299	7.903	10.664	7.386	10.293	7.084	9.964	6.817
	17	15.830	9.356	14.753	8.916	13.676	8.476	12.599	8.036	11.870	7.497	11.203	7.002	10.813	6.714	10.468	6.459
	18	17.153	9.055	15.837	8.571	14.521	8.088	13.205	7.605	12.442	7.090	11.742	6.619	11.334	6.344	10.972	6.100
	19	18.476	8.753	16.921	8.227	15.366	7.700	13.811	7.174	13.013	6.684	12.281	6.236	11.854	5.974	11.476	5.742
	20	19.807	8.454	18.085	7.907	16.364	7.361	14.642	6.814	13.796	6.345	13.020	5.916	12.567	5.665	12.166	5.443
28	18	17.153	10.966	15.837	10.483	14.521	9.999	13.205	9.516	12.442	9.002	11.742	8.531	11.334	8.256	10.972	8.012
	19	18.476	10.665	16.921	10.138	15.366	9.611	13.811	9.085	13.013	8.596	12.281	8.147	11.854	7.886	11.476	7.654
	20	19.807	10.366	18.085	9.819	16.364	9.272	14.642	8.725	13.796	8.257	13.020	7.827	12.567	7.577	12.166	7.355
	21	21.144	10.069	19.304	9.517	17.463	8.965	15.623	8.413	14.720	7.962	13.892	7.549	13.409	7.308	12.981	7.095
	22	22.481	9.772	20.522	9.215	18.563	8.657	16.603	8.100	15.643	7.668	14.764	7.271	14.250	7.040	13.795	6.835
	23	23.818	9.475	21.740	8.912	19.662	8.350	17.584	7.788	16.567	7.373	15.636	6.994	15.092	6.772	14.610	6.576
	24	25.155	9.178	22.958	8.610	20.761	8.043	18.564	7.475	17.491	7.079	16.508	6.716	15.934	6.504	15.425	6.316
30	20	19.807	11.321	18.085	10.775	16.364	10.228	14.642	9.681	13.796	9.212	13.020	8.783	12.567	8.532	12.166	8.310
	21	21.144	11.025	19.304	10.472	17.463	9.920	15.623	9.368	14.720	8.918	13.892	8.505	13.409	8.264	12.981	8.051
	22	22.481	10.728	20.522	10.170	18.563	9.613	16.603	9.056	15.643	8.623	14.764	8.227	14.250	7.996	13.795	7.791
	23	23.818	10.431	21.740	9.868	19.662	9.306	17.584	8.743	16.567	8.329	15.636	7.949	15.092	7.728	14.610	7.531
	24	25.155	10.134	22.958	9.566	20.761	8.998	18.564	8.431	17.491	8.034	16.508	7.671	15.934	7.459	15.425	7.272
														HIGH AMBIENT			

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	8.064	8.064	9.315	9.315	9.732	9.732	14.318	14.318	16.819	16.819	18.070	18.070	19.320	19.320
17	8.054	8.054	9.186	9.186	9.563	9.563	14.234	14.234	16.369	16.369	17.570	17.570	18.771	18.771
19	8.044	8.044	9.057	9.057	9.395	9.395	14.151	14.151	15.920	15.920	17.071	17.071	18.222	18.222
21	8.033	8.033	8.929	8.929	9.227	9.227	14.068	14.068	15.470	15.470	16.572	16.572	17.673	17.673
23	7.835	7.835	8.753	8.753	9.059	9.059	13.437	13.437	15.020	15.020	16.072	16.072	17.124	17.124
25	7.637	7.637	8.578	8.578	8.891	8.891	12.805	12.805	14.571	14.571	15.573	15.573	16.575	16.575
27	7.439	7.439	8.402	8.402	8.723	8.723	12.174	12.174	14.121	14.121	15.074	15.074	16.026	16.026
	FROST REGION													

R22 Models
(Heatpump)

Model : MCM 062CR / MLC 061CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	16.960	10.123	15.997	9.343	15.033	8.562	14.070	7.782	13.106	7.002	11.950	6.065
	16	17.850	9.479	16.768	8.745	15.685	8.012	14.602	7.279	13.520	6.546	12.220	5.667
24	16	17.850	12.553	16.768	11.820	15.685	11.086	14.602	10.353	13.520	9.620	12.220	8.741
	17	18.741	11.908	17.539	11.222	16.337	10.537	15.135	9.851	13.933	9.165	12.491	8.342
	18	19.631	11.264	18.310	10.625	16.988	9.987	15.667	9.348	14.346	8.709	12.761	7.943
	19	20.521	10.619	19.080	10.028	17.640	9.437	16.200	8.845	14.759	8.254	13.031	7.544
	20	21.416	9.973	19.897	9.420	18.378	8.867	16.859	8.314	15.340	7.760	13.517	7.096
28	18	19.631	14.338	18.310	13.699	16.988	13.061	15.667	12.422	14.346	11.784	12.761	11.017
	19	20.521	13.693	19.080	13.102	17.640	12.511	16.200	11.919	14.759	11.328	13.031	10.619
	20	21.416	13.048	19.897	12.494	18.378	11.941	16.859	11.388	15.340	10.834	13.517	10.170
	21	22.314	12.401	20.743	11.880	19.173	11.358	17.602	10.836	16.031	10.315	14.146	9.689
	22	23.212	11.755	21.590	11.265	19.968	10.775	18.345	10.285	16.723	9.796	14.776	9.208
	23	24.110	11.108	22.436	10.650	20.762	10.192	19.088	9.734	17.414	9.276	15.406	8.727
	24	25.009	10.462	23.283	10.036	21.557	9.609	19.832	9.183	18.106	8.757	16.035	8.245
30	20	21.416	14.585	19.897	14.031	18.378	13.478	16.859	12.925	15.340	12.371	13.517	11.707
	21	22.314	13.938	20.743	13.417	19.173	12.895	17.602	12.374	16.031	11.852	14.146	11.226
	22	23.212	13.292	21.590	12.802	19.968	12.312	18.345	11.822	16.723	11.333	14.776	10.745
	23	24.110	12.645	22.436	12.187	20.762	11.729	19.088	11.271	17.414	10.813	15.406	10.264
	24	25.009	11.999	23.283	11.573	21.557	11.146	19.832	10.720	18.106	10.294	16.035	9.782

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	9.170	9.170	10.810	10.810	11.357	11.357	17.371	17.371	20.651	20.651	22.291	22.291	23.931	23.931
17	9.105	9.105	10.643	10.643	11.155	11.155	17.051	17.051	20.095	20.095	21.673	21.673	23.251	23.251
19	9.040	9.040	10.475	10.475	10.954	10.954	16.732	16.732	19.540	19.540	21.055	21.055	22.571	22.571
21	8.974	8.974	10.308	10.308	10.752	10.752	16.413	16.413	18.985	18.985	20.437	20.437	21.890	21.890
23	8.800	8.800	10.113	10.113	10.551	10.551	15.865	15.865	18.429	18.429	19.820	19.820	21.210	21.210
25	8.626	8.626	9.918	9.918	10.349	10.349	15.318	15.318	17.874	17.874	19.202	19.202	20.530	20.530
27	8.452	8.452	9.724	9.724	10.148	10.148	14.770	14.770	17.319	17.319	18.584	18.584	19.850	19.850
	FROST REGION													

R410A Models
(Cooling only)

Model : M5CM 040D / M5LC 035C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	10.630	6.784	9.801	5.955	8.988	5.141	8.175	4.327	7.361	3.512	6.385	2.536
	16	10.892	6.263	10.085	5.512	9.286	4.769	8.487	4.025	7.688	3.282	6.729	2.390
24	16	10.892	8.466	10.085	7.715	9.286	6.972	8.487	6.229	7.688	5.486	6.729	4.594
	17	11.154	7.945	10.369	7.272	9.584	6.600	8.799	5.928	8.014	5.255	7.072	4.449
	18	11.409	7.416	10.641	6.817	9.873	6.219	9.105	5.620	8.337	5.022	7.416	4.303
	19	11.680	6.872	11.007	6.266	10.335	5.660	9.662	5.055	8.797	4.647	7.759	4.158
	20	11.912	6.339	11.145	5.786	10.378	5.233	9.610	4.680	8.843	4.127	7.922	3.463
28	18	11.409	9.620	10.641	9.021	9.873	8.422	9.105	7.824	8.337	7.225	7.416	6.507
	19	11.680	9.075	11.007	8.469	10.335	7.864	9.662	7.258	8.797	6.851	7.759	6.361
	20	11.912	8.542	11.145	7.989	10.378	7.436	9.610	6.883	8.843	6.330	7.922	5.667
	21	12.161	7.994	11.377	7.412	10.593	6.831	9.809	6.250	9.025	5.669	8.085	4.972
	22	12.409	7.445	11.609	6.835	10.809	6.226	10.008	5.617	9.208	5.008	8.248	4.277
	23	12.658	6.896	11.841	6.259	11.024	5.621	10.208	4.984	9.391	4.347	8.411	3.582
	24	12.906	6.347	12.073	5.682	11.240	5.016	10.407	4.351	9.573	3.685	8.574	2.887
30	20	11.912	9.644	11.145	9.091	10.378	8.538	9.610	7.985	8.843	7.432	7.922	6.768
	21	12.161	9.095	11.377	8.514	10.593	7.933	9.809	7.352	9.025	6.771	8.085	6.073
	22	12.409	8.546	11.609	7.937	10.809	7.328	10.008	6.719	9.208	6.109	8.248	5.378
	23	12.658	7.998	11.841	7.360	11.024	6.723	10.208	6.086	9.391	5.448	8.411	4.683
	24	12.906	7.449	12.073	6.783	11.240	6.118	10.407	5.452	9.573	4.787	8.574	3.989

Model : M5CM 040D / M5LC 040C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	10.874	6.936	10.294	6.356	9.796	5.858	9.298	5.360	8.800	4.862	8.202	4.265
	16	11.376	6.545	10.802	6.038	10.268	5.571	9.735	5.105	9.202	4.638	8.562	4.079
24	16	11.376	8.795	10.802	8.288	10.268	7.821	9.735	7.355	9.202	6.888	8.562	6.329
	17	11.878	8.404	11.309	7.969	10.741	7.534	10.173	7.099	9.604	6.664	8.922	6.142
	18	12.342	7.974	11.753	7.586	11.165	7.198	10.577	6.810	9.988	6.422	9.282	5.956
	19	12.825	7.534	12.311	7.140	11.797	6.746	11.284	6.352	10.538	6.087	9.642	5.769
	20	13.264	7.089	12.606	6.664	11.949	6.239	11.291	5.813	10.634	5.388	9.845	4.877
28	18	12.342	10.224	11.753	9.836	11.165	9.448	10.577	9.060	9.988	8.672	9.282	8.206
	19	12.825	9.784	12.311	9.390	11.797	8.996	11.284	8.602	10.538	8.337	9.642	8.019
	20	13.264	9.339	12.606	8.914	11.949	8.489	11.291	8.063	10.634	7.638	9.845	7.127
	21	13.722	8.884	13.015	8.375	12.309	7.865	11.602	7.356	10.895	6.847	10.047	6.236
	22	14.180	8.428	13.424	7.835	12.668	7.242	11.913	6.649	11.157	6.056	10.250	5.344
	23	14.638	7.973	13.833	7.296	13.028	6.619	12.223	5.942	11.418	5.264	10.452	4.452
	24	15.096	7.517	14.242	6.756	13.388	5.995	12.534	5.234	11.680	4.473	10.655	3.560
30	20	13.264	10.464	12.606	10.039	11.949	9.614	11.291	9.188	10.634	8.763	9.845	8.252
	21	13.722	10.009	13.015	9.500	12.309	8.990	11.602	8.481	10.895	7.972	10.047	7.361
	22	14.180	9.553	13.424	8.960	12.668	8.367	11.913	7.774	11.157	7.181	10.250	6.469
	23	14.638	9.098	13.833	8.421	13.028	7.744	12.223	7.067	11.418	6.389	10.452	5.577
	24	15.096	8.642	14.242	7.881	13.388	7.120	12.534	6.359	11.680	5.598	10.655	4.685

R410A Models
(Cooling only)

Model : M5CM 050D / M5LC 050C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	12.928	8.452	12.323	7.851	11.623	7.352	10.923	6.853	10.223	6.354	9.383	5.756
	16	13.441	8.003	12.782	7.488	12.077	7.025	11.371	6.562	10.666	6.098	9.819	5.542
24	16	13.441	10.081	12.782	9.567	12.077	9.103	11.371	8.640	10.666	8.177	9.819	7.621
	17	13.953	9.632	13.242	9.204	12.531	8.776	11.819	8.349	11.108	7.921	10.255	7.407
	18	14.510	9.136	13.775	8.763	13.041	8.389	12.306	8.015	11.572	7.642	10.690	7.194
	19	15.100	8.609	14.507	8.133	13.915	7.658	13.322	7.183	12.324	7.091	11.126	6.980
	20	15.616	8.114	14.797	7.699	13.979	7.285	13.160	6.871	12.342	6.456	11.360	5.959
28	18	14.510	11.214	13.775	10.841	13.041	10.467	12.306	10.094	11.572	9.720	10.690	9.272
	19	15.100	10.687	14.507	10.212	13.915	9.736	13.322	9.261	12.324	9.169	11.126	9.058
	20	15.616	10.192	14.797	9.778	13.979	9.363	13.160	8.949	12.342	8.534	11.360	8.037
	21	16.165	9.666	15.286	9.156	14.407	8.647	13.527	8.137	12.648	7.627	11.593	7.016
	22	16.714	9.140	15.774	8.535	14.834	7.930	13.895	7.325	12.955	6.720	11.827	5.995
	23	17.263	8.614	16.263	7.914	15.262	7.214	14.262	6.514	13.261	5.814	12.061	4.973
	24	17.812	8.088	16.751	7.292	15.690	6.497	14.629	5.702	13.568	4.907	12.294	3.952
30	20	15.616	11.231	14.797	10.817	13.979	10.402	13.160	9.988	12.342	9.574	11.360	9.076
	21	16.165	10.705	15.286	10.195	14.407	9.686	13.527	9.176	12.648	8.667	11.593	8.055
	22	16.714	10.179	15.774	9.574	14.834	8.969	13.895	8.364	12.955	7.760	11.827	7.034
	23	17.263	9.653	16.263	8.953	15.262	8.253	14.262	7.553	13.261	6.853	12.061	6.013
	24	17.812	9.127	16.751	8.332	15.690	7.536	14.629	6.741	13.568	5.946	12.294	4.991

Model : M5CM 062C / M5LC 061C

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	14.970	9.688	14.484	9.102	13.941	8.675	13.398	8.247	12.855	7.819	12.204	7.306
	16	15.690	9.251	15.146	8.760	14.574	8.348	14.002	7.935	13.430	7.523	12.743	7.029
24	16	15.690	12.050	15.146	11.558	14.574	11.146	14.002	10.734	13.430	10.322	12.743	9.828
	17	16.410	11.612	15.809	11.216	15.207	10.819	14.606	10.423	14.004	10.026	13.283	9.550
	18	17.157	11.102	16.515	10.750	15.874	10.398	15.233	10.047	14.591	9.695	13.822	9.273
	19	17.919	10.573	17.319	10.177	16.719	9.782	16.120	9.386	15.320	9.209	14.361	8.996
	20	18.640	10.041	17.875	9.585	17.110	9.129	16.345	8.672	15.581	8.216	14.663	7.669
28	18	17.157	13.900	16.515	13.549	15.874	13.197	15.233	12.845	14.591	12.494	13.822	12.072
	19	17.919	13.372	17.319	12.976	16.719	12.581	16.120	12.185	15.320	12.007	14.361	11.794
	20	18.640	12.840	17.875	12.384	17.110	11.928	16.345	11.471	15.581	11.015	14.663	10.468
	21	19.378	12.291	18.529	11.685	17.680	11.079	16.831	10.473	15.983	9.867	14.964	9.141
	22	20.115	11.741	19.182	10.986	18.250	10.230	17.317	9.475	16.385	8.720	15.266	7.814
	23	20.852	11.191	19.836	10.287	18.820	9.382	17.803	8.477	16.787	7.572	15.567	6.487
	24	21.590	10.642	20.490	9.588	19.389	8.533	18.289	7.479	17.189	6.425	15.869	5.160
30	20	18.640	14.240	17.875	13.783	17.110	13.327	16.345	12.871	15.581	12.414	14.663	11.867
	21	19.378	13.690	18.529	13.084	17.680	12.478	16.831	11.873	15.983	11.267	14.964	10.540
	22	20.115	13.140	19.182	12.385	18.250	11.630	17.317	10.875	16.385	10.119	15.266	9.213
	23	20.852	12.591	19.836	11.686	18.820	10.781	17.803	9.877	16.787	8.972	15.567	7.886
	24	21.590	12.041	20.490	10.987	19.389	9.933	18.289	8.879	17.189	7.824	15.869	6.559

R410A Models
(Heatpump)

Model : M5CM 040DR / M5LC 035CR

Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	10.630	6.784	9.801	5.955	8.988	5.141	8.175	4.327	7.361	3.512	6.385	2.536
	16	10.892	6.263	10.085	5.512	9.286	4.769	8.487	4.025	7.688	3.282	6.729	2.390
24	16	10.892	8.466	10.085	7.715	9.286	6.972	8.487	6.229	7.688	5.486	6.729	4.594
	17	11.154	7.945	10.369	7.272	9.584	6.600	8.799	5.928	8.014	5.255	7.072	4.449
	18	11.409	7.416	10.641	6.817	9.873	6.219	9.105	5.620	8.337	5.022	7.416	4.303
	19	11.680	6.872	11.007	6.266	10.335	5.660	9.662	5.055	8.797	4.647	7.759	4.158
	20	11.912	6.339	11.145	5.786	10.378	5.233	9.610	4.680	8.843	4.127	7.922	3.463
28	18	11.409	9.620	10.641	9.021	9.873	8.422	9.105	7.824	8.337	7.225	7.416	6.507
	19	11.680	9.075	11.007	8.469	10.335	7.864	9.662	7.258	8.797	6.851	7.759	6.361
	20	11.912	8.542	11.145	7.989	10.378	7.436	9.610	6.883	8.843	6.330	7.922	5.667
	21	12.161	7.994	11.377	7.412	10.593	6.831	9.809	6.250	9.025	5.669	8.085	4.972
	22	12.409	7.445	11.609	6.835	10.809	6.226	10.008	5.617	9.208	5.008	8.248	4.277
	23	12.658	6.896	11.841	6.259	11.024	5.621	10.208	4.984	9.391	4.347	8.411	3.582
	24	12.906	6.347	12.073	5.682	11.240	5.016	10.407	4.351	9.573	3.685	8.574	2.887
30	20	11.912	9.644	11.145	9.091	10.378	8.538	9.610	7.985	8.843	7.432	7.922	6.768
	21	12.161	9.095	11.377	8.514	10.593	7.933	9.809	7.352	9.025	6.771	8.085	6.073
	22	12.409	8.546	11.609	7.937	10.809	7.328	10.008	6.719	9.208	6.109	8.248	5.378
	23	12.658	7.998	11.841	7.360	11.024	6.723	10.208	6.086	9.391	5.448	8.411	4.683
	24	12.906	7.449	12.073	6.783	11.240	6.118	10.407	5.452	9.573	4.787	8.574	3.989

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	5.847	5.847	6.618	6.618	6.875	6.875	9.701	9.701	11.242	11.242	12.013	12.013	12.784	12.784
17	5.694	5.694	6.432	6.432	6.719	6.719	9.689	9.689	11.078	11.078	11.848	11.848	12.617	12.617
19	5.540	5.540	6.247	6.247	6.564	6.564	9.678	9.678	10.914	10.914	11.682	11.682	12.450	12.450
21	5.387	5.387	6.088	6.088	6.409	6.409	9.538	9.538	10.750	10.750	11.517	11.517	12.283	12.283
23	5.234	5.234	5.955	5.955	6.253	6.253	9.270	9.270	10.587	10.587	11.351	11.351	12.116	12.116
25	5.080	5.080	5.822	5.822	6.098	6.098	9.003	9.003	10.423	10.423	11.186	11.186	11.949	11.949
27	4.927	4.927	5.689	5.689	5.943	5.943	8.735	8.735	10.259	10.259	11.020	11.020	11.782	11.782
	FROST REGION													

R410A Models
(Heatpump)

Model : M5CM 040DR / M5LC 040CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	10.874	6.936	10.294	6.356	9.796	5.858	9.298	5.360	8.800	4.862	8.202	4.265
	16	11.376	6.545	10.802	6.038	10.268	5.571	9.735	5.105	9.202	4.638	8.562	4.079
24	16	11.376	8.795	10.802	8.288	10.268	7.821	9.735	7.355	9.202	6.888	8.562	6.329
	17	11.878	8.404	11.309	7.969	10.741	7.534	10.173	7.099	9.604	6.664	8.922	6.142
	18	12.342	7.974	11.753	7.586	11.165	7.198	10.577	6.810	9.988	6.422	9.282	5.956
	19	12.825	7.534	12.311	7.140	11.797	6.746	11.284	6.352	10.538	6.087	9.642	5.769
	20	13.264	7.089	12.606	6.664	11.949	6.239	11.291	5.813	10.634	5.388	9.845	4.877
28	18	12.342	10.224	11.753	9.836	11.165	9.448	10.577	9.060	9.988	8.672	9.282	8.206
	19	12.825	9.784	12.311	9.390	11.797	8.996	11.284	8.602	10.538	8.337	9.642	8.019
	20	13.264	9.339	12.606	8.914	11.949	8.489	11.291	8.063	10.634	7.638	9.845	7.127
	21	13.722	8.884	13.015	8.375	12.309	7.865	11.602	7.356	10.895	6.847	10.047	6.236
	22	14.180	8.428	13.424	7.835	12.668	7.242	11.913	6.649	11.157	6.056	10.250	5.344
	23	14.638	7.973	13.833	7.296	13.028	6.619	12.223	5.942	11.418	5.264	10.452	4.452
	24	15.096	7.517	14.242	6.756	13.388	5.995	12.534	5.234	11.680	4.473	10.655	3.560
30	20	13.264	10.464	12.606	10.039	11.949	9.614	11.291	9.188	10.634	8.763	9.845	8.252
	21	13.722	10.009	13.015	9.500	12.309	8.990	11.602	8.481	10.895	7.972	10.047	7.361
	22	14.180	9.553	13.424	8.960	12.668	8.367	11.913	7.774	11.157	7.181	10.250	6.469
	23	14.638	9.098	13.833	8.421	13.028	7.744	12.223	7.067	11.418	6.389	10.452	5.577
	24	15.096	8.642	14.242	7.881	13.388	7.120	12.534	6.359	11.680	5.598	10.655	4.685

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	6.910	6.910	7.821	7.821	8.124	8.124	11.464	11.464	13.286	13.286	14.197	14.197	15.108	15.108
17	6.729	6.729	7.471	7.471	7.927	7.927	11.451	11.451	13.020	13.020	13.919	13.919	14.818	14.818
19	6.548	6.548	7.121	7.121	7.730	7.730	11.437	11.437	12.754	12.754	13.640	13.640	14.527	14.527
21	6.366	6.366	6.905	6.905	7.532	7.532	11.228	11.228	12.487	12.487	13.362	13.362	14.236	14.236
23	6.185	6.185	6.824	6.824	7.335	7.335	10.823	10.823	12.221	12.221	13.083	13.083	13.946	13.946
25	6.004	6.004	6.742	6.742	7.138	7.138	10.418	10.418	11.955	11.955	12.805	12.805	13.655	13.655
27	5.823	5.823	6.661	6.661	6.940	6.940	10.013	10.013	11.689	11.689	12.527	12.527	13.365	13.365
	FROST REGION													

R410A Models
(Heatpump)

Model : M5CM 050DR / M5LC 050CR
Cooling Mode

ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	11.841	7.739	11.269	7.168	10.606	6.686	9.943	6.205	9.281	5.723	8.485	5.145
	16	12.386	7.348	11.86	6.851	11.289	6.399	10.717	5.947	10.146	5.494	9.46	4.952
24	16	12.386	9.261	11.86	8.765	11.289	8.312	10.717	7.86	10.146	7.408	9.46	6.865
	17	12.931	8.871	12.451	8.448	11.971	8.025	11.491	7.602	11.011	7.18	10.435	6.672
	18	13.518	8.439	13.113	8.062	12.707	7.685	12.302	7.308	11.897	6.931	11.41	6.479
	19	14.073	7.995	13.579	7.605	13.084	7.216	12.59	6.826	12.497	6.581	12.385	6.286
	20	14.667	7.548	14.278	7.128	13.889	6.707	13.5	6.287	13.112	5.867	12.645	5.363
28	18	13.518	10.352	13.113	9.976	12.707	9.599	12.302	9.222	11.897	8.845	11.41	8.393
	19	14.073	9.909	13.579	9.519	13.084	9.129	12.59	8.739	12.497	8.494	12.385	8.2
	20	14.667	9.461	14.278	9.041	13.889	8.621	13.5	8.201	13.112	7.781	12.645	7.276
	21	15.228	9.003	14.781	8.493	14.334	7.983	13.888	7.474	13.441	6.964	12.905	6.353
	22	15.788	8.544	15.284	7.945	14.78	7.346	14.275	6.747	13.771	6.148	13.165	5.429
	23	16.349	8.085	15.787	7.396	15.225	6.708	14.662	6.02	14.1	5.332	13.425	4.506
	24	16.91	7.626	16.29	6.848	15.67	6.071	15.05	5.293	14.43	4.515	13.685	3.582
30	20	14.667	10.418	14.278	9.998	13.889	9.578	13.5	9.158	13.112	8.737	12.645	8.233
	21	15.228	9.959	14.781	9.45	14.334	8.94	13.888	8.431	13.441	7.921	12.905	7.31
	22	15.788	9.5	15.284	8.901	14.78	8.303	14.275	7.704	13.771	7.105	13.165	6.386
	23	16.349	9.041	15.787	8.353	15.225	7.665	14.662	6.977	14.1	6.289	13.425	5.463
	24	16.91	8.582	16.29	7.805	15.67	7.027	15.05	6.25	14.43	5.472	13.685	4.539

Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	8.15	8.15	9.225	9.225	9.583	9.583	13.522	13.522	15.671	15.671	16.745	16.745	17.82	17.82
17	7.936	7.936	9.063	9.063	9.285	9.285	13.506	13.506	15.016	15.016	16.027	16.027	17.038	17.038
19	7.723	7.723	8.902	8.902	8.987	8.987	13.49	13.49	14.36	14.36	15.308	15.308	16.257	16.257
21	7.509	7.509	8.642	8.642	8.689	8.689	13.034	13.034	13.705	13.705	14.59	14.59	15.475	15.475
23	7.295	7.295	8.283	8.283	8.391	8.391	12.138	12.138	13.049	13.049	13.871	13.871	14.693	14.693
25	7.082	7.082	7.923	7.923	8.094	8.094	11.243	11.243	12.394	12.394	13.153	13.153	13.912	13.912
27	6.868	6.868	7.564	7.564	7.796	7.796	10.347	10.347	11.739	11.739	12.434	12.434	13.13	13.13

R410A Models
(Heatpump)

Model : M5CM 062CR / M5LC 061CR
Cooling Mode

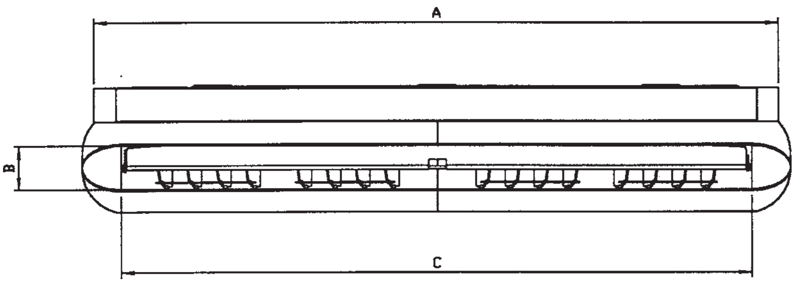
ID DB°C	ID WB°C	Outdoor DB°C											
		20		25		30		35		40		46	
		TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
20	15	14.970	9.688	14.484	9.102	13.941	8.675	13.398	8.247	12.855	7.819	12.204	7.306
	16	15.690	9.251	15.146	8.760	14.574	8.348	14.002	7.935	13.430	7.523	12.743	7.029
24	16	15.690	12.050	15.146	11.558	14.574	11.146	14.002	10.734	13.430	10.322	12.743	9.828
	17	16.410	11.612	15.809	11.216	15.207	10.819	14.606	10.423	14.004	10.026	13.283	9.550
	18	17.157	11.102	16.515	10.750	15.874	10.398	15.233	10.047	14.591	9.695	13.822	9.273
	19	17.919	10.573	17.319	10.177	16.719	9.782	16.120	9.386	15.320	9.209	14.361	8.996
	20	18.640	10.041	17.875	9.585	17.110	9.129	16.345	8.672	15.581	8.216	14.663	7.669
28	18	17.157	13.900	16.515	13.549	15.874	13.197	15.233	12.845	14.591	12.494	13.822	12.072
	19	17.919	13.372	17.319	12.976	16.719	12.581	16.120	12.185	15.320	12.007	14.361	11.794
	20	18.640	12.840	17.875	12.384	17.110	11.928	16.345	11.471	15.581	11.015	14.663	10.468
	21	19.378	12.291	18.529	11.685	17.680	11.079	16.831	10.473	15.983	9.867	14.964	9.141
	22	20.115	11.741	19.182	10.986	18.250	10.230	17.317	9.475	16.385	8.720	15.266	7.814
	23	20.852	11.191	19.836	10.287	18.820	9.382	17.803	8.477	16.787	7.572	15.567	6.487
	24	21.590	10.642	20.490	9.588	19.389	8.533	18.289	7.479	17.189	6.425	15.869	5.160
30	20	18.640	14.240	17.875	13.783	17.110	13.327	16.345	12.871	15.581	12.414	14.663	11.867
	21	19.378	13.690	18.529	13.084	17.680	12.478	16.831	11.873	15.983	11.267	14.964	10.540
	22	20.115	13.140	19.182	12.385	18.250	11.630	17.317	10.875	16.385	10.119	15.266	9.213
	23	20.852	12.591	19.836	11.686	18.820	10.781	17.803	9.877	16.787	8.972	15.567	7.886
	24	21.590	12.041	20.490	10.987	19.389	9.933	18.289	8.879	17.189	7.824	15.869	6.559

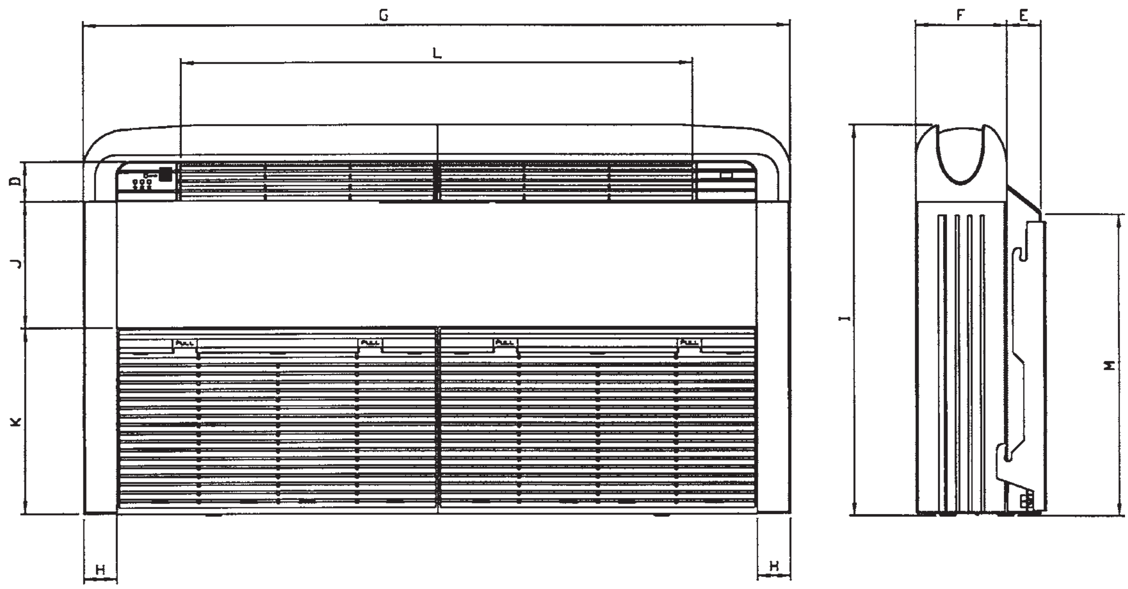
Heating Mode

ID DB°C	Outdoor WB°C													
	-9		-6		-5		6		12		15		18	
	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)	TC(kW)	SC(kW)
15	9.745	9.745	11.029	11.029	11.458	11.458	16.168	16.168	18.737	18.737	20.022	20.022	21.306	21.306
17	9.489	9.489	10.803	10.803	11.168	11.168	16.149	16.149	18.304	18.304	19.564	19.564	20.823	20.823
19	9.234	9.234	10.576	10.576	10.879	10.879	16.129	16.129	17.871	17.871	19.105	19.105	20.339	20.339
21	8.978	8.978	10.303	10.303	10.590	10.590	15.799	15.799	17.439	17.439	18.647	18.647	19.856	19.856
23	8.723	8.723	9.984	9.984	10.301	10.301	15.158	15.158	17.006	17.006	18.189	18.189	19.373	19.373
25	8.467	8.467	9.664	9.664	10.011	10.011	14.516	14.516	16.573	16.573	17.731	17.731	18.889	18.889
27	8.212	8.212	9.345	9.345	9.722	9.722	13.875	13.875	16.140	16.140	17.273	17.273	18.406	18.406
	FROST REGION													

Dimensional Data

Indoor Unit
Model : MCM - D SERIES
(Cooling only and Heatpump)

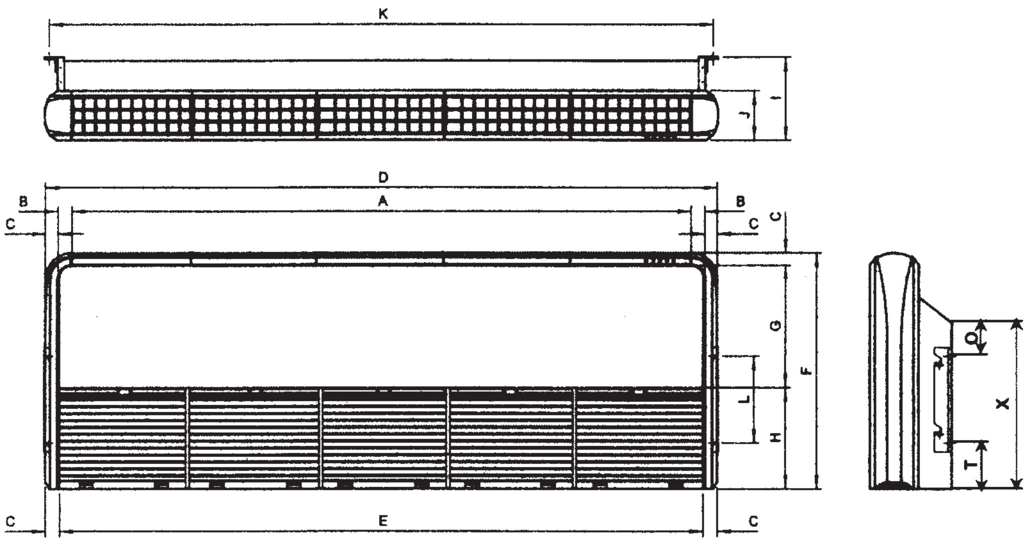




MODEL	MCM 020D/DR	MCM 025D/DR	MCM 030D/DR	MCM 040D/DR	MCM 050D/DR
A	1174	1174	1174	1674	1674
B	75	75	75	75	75
C	1082	1082	1082	1582	1582
D	68	68	68	68	68
E	58	58	93	93	93
F	156	156	156	156	156
G	1214	1214	1214	1714	1714
H	57	57	57	57	57
I	670	670	670	670	670
J	216	216	216	216	216
K	319	319	319	319	319
L	879	879	879	1379	1379
M	517	517	517	517	517

All dimension in mm

Model : MCM 062C/CR

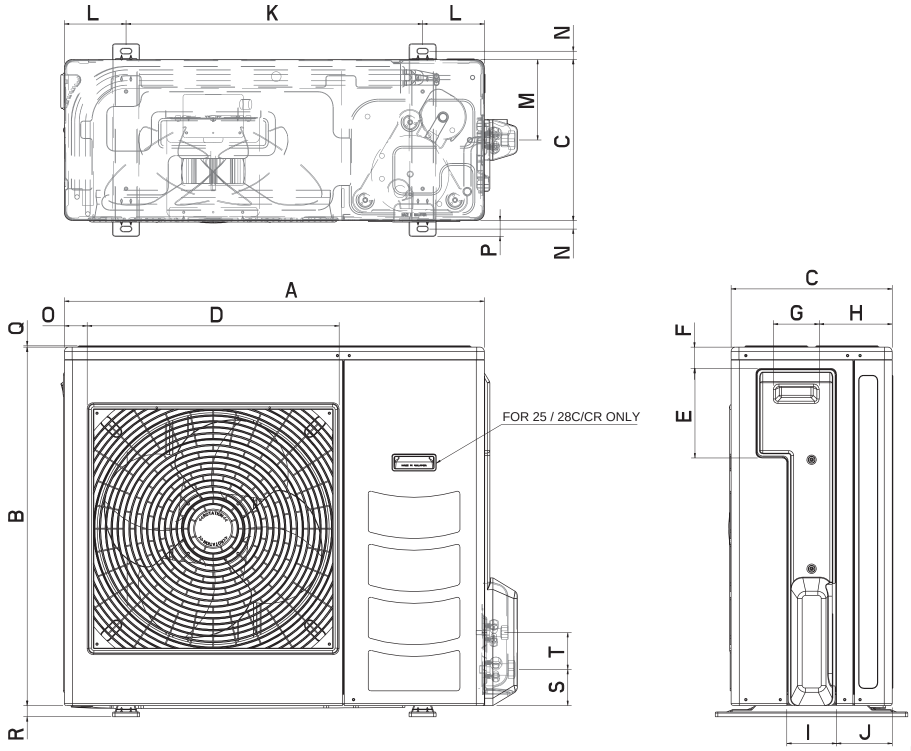


All Dimension in mm

MCM	A(GRILL)	B	C	D	E	F	G	H	I	J	K	L	O	T	X
062C	1750	40	36	1930	1830	680	352	292	285	140	1880	250	126	132	508

Outdoor Unit

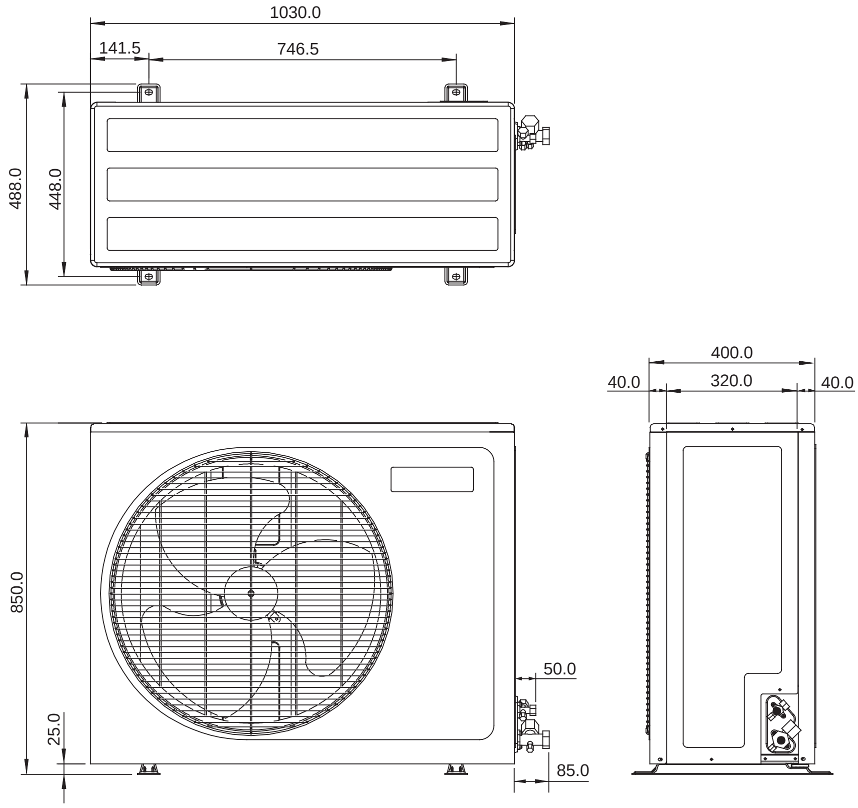
Model : MLC 018C/CR
MLC 020 / 025 / 028C/CR



Note : Dimension in mm

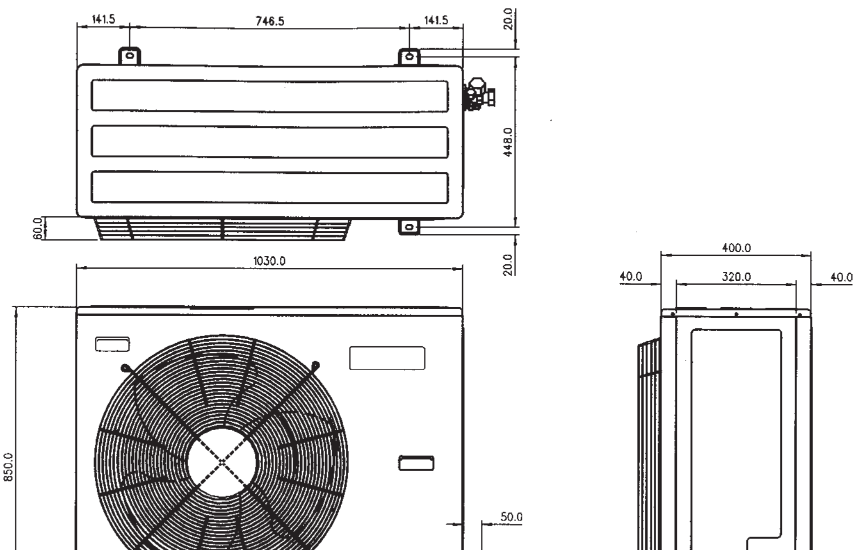
MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
18/20C/CR	855	628	328	508	181	44	93	149	101	113	603	126	164	17	49	32	3	23	73	75
25/28C/CR	855	730	328	513	182	44	93	149	101	113	603	126	164	17	47	32	3	23	73	75

Model : MLC 030 / 035 / 040 / 050C/CR
M5LC 035 / 040 / 050C/CR



Note : Dimension in mm

Model : MLC / M5LC 061C/CR



Note : Dimension in mm

Electrical Data

Electrical Data - Cooling Only (R22)

MODEL	INDOOR UNIT		MCM 020D	
	OUTDOOR UNIT		MLC 018C	MLC 020C
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	89	
	RATED RUNNING CURRENT	A	0.38	
	MOTOR OUTPUT	W	40	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	120	120
	RATED RUNNING CURRENT	A	0.53	0.53
	MOTOR OUTPUT	W	64	64
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	CAPACITOR	μF	60.0	60.0
	RATED INPUT POWER	W	1651	1640
	RATED RUNNING CURRENT	A	7.5	7.2
	LOCKED ROTOR AMP.	A	32	32

MODEL	INDOOR UNIT		MCM 025D
	OUTDOOR UNIT		MLC 025C
INDOOR MOTOR	INSULATION GRADE		CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	RATED INPUT POWER	W	110
	RATED RUNNING CURRENT	A	0.49
	MOTOR OUTPUT	W	65
	POLES		4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	RATED INPUT POWER	W	124
	RATED RUNNING CURRENT	A	0.54
	MOTOR OUTPUT	W	55
	POLES		6
COMPRESSOR	INSULATION GRADE		CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	CAPACITOR	μF	50.0
	RATED INPUT POWER	W	2340
	RATED RUNNING CURRENT	A	10.5
	LOCKED ROTOR AMP.	A	54

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Cooling Only (R22)

MODEL	INDOOR UNIT		MCM 030D	
	OUTDOOR UNIT		MLC 028C	MLC 030C
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	110	
	RATED RUNNING CURRENT	A	0.49	
	MOTOR OUTPUT	W	65	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	142	220
	RATED RUNNING CURRENT	A	0.62	1.02
	MOTOR OUTPUT	W	75	145
	POLES		6	8
COMPRESSOR	INSULATION GRADE		CLASS E	-
	POWER SOURCE - 1Ø / <3Ø>	V/Ph/Hz	220 - 240 / 1 / 50 / <380 - 415 / 3 / 50>	
	CAPACITOR - 1Ø / <3Ø>	μF	50.0	50.0 / <NIL>
	RATED INPUT POWER - 1Ø / <3Ø>	W	2642	2270 / <2330>
	RATED RUNNING CURRENT - 1Ø / <3Ø>	A	13.2	10.6 / <3.3>
	LOCKED ROTOR AMP. - 1Ø / <3Ø>	A	66	82 / <35>

MODEL	INDOOR UNIT		MCM 040D	
	OUTDOOR UNIT		MLC 035C	MLC 040C
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	153	
	RATED RUNNING CURRENT	A	0.68	
	MOTOR OUTPUT	W	100	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	220	
	RATED RUNNING CURRENT	A	1.02	
	MOTOR OUTPUT	W	145	
	POLES		8	
COMPRESSOR	INSULATION GRADE		-	-
	POWER SOURCE - 1Ø / <3Ø>	V/Ph/Hz	220 - 240 / 1 / 50 / <380 - 415 / 3 / 50>	
	CAPACITOR - 1Ø / <3Ø>	μF	60.0	60.0 / <NIL>
	RATED INPUT POWER - 1Ø / <3Ø>	W	2747	2877 / <2847>
	RATED RUNNING CURRENT - 1Ø / <3Ø>	A	13.5	15.7 / <5.1>
	LOCKED ROTOR AMP. - 1Ø / <3Ø>	A	97	114 / <48>

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Cooling Only (R22)

MODEL	INDOOR UNIT		MCM 050D	MCM 062C
	OUTDOOR UNIT		MLC 050C	MLC 061C
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	171	327
	RATED RUNNING CURRENT	A	0.76	1.4
	MOTOR OUTPUT	W	100	80 x 2
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	220	258
	RATED RUNNING CURRENT	A	1.02	1.20
	MOTOR OUTPUT	W	145	400
	POLES		8	6
COMPRESSOR	INSULATION GRADE		-	-
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	
	CAPACITOR	μF	NIL	NIL
	RATED INPUT POWER	W	4199	5008
	RATED RUNNING CURRENT	A	7.5	8.5
	LOCKED ROTOR AMP.	A	66	74

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
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Electrical Data - Heat Pump (R22)

MODEL	INDOOR UNIT		MCM 020DR	
	OUTDOOR UNIT		MLC 018CR	MLC 020CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	89	
	RATED RUNNING CURRENT	A	0.38	
	MOTOR OUTPUT	W	40	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	120	120
	RATED RUNNING CURRENT	A	0.53	0.53
	MOTOR OUTPUT	W	64	64
	POLES		6	6
COMPRESSOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	CAPACITOR	μF	60.0	60.0
	RATED INPUT POWER (COOLING)	W	1651	1640
	RATED INPUT POWER (HEATING)	W	1491	1590
	RATED RUNNING CURRENT (COOLING)	A	7.5	7.2
	RATED RUNNING CURRENT (HEATING)	A	6.7	7.0
	LOCKED ROTOR AMP.	A	32	32

MODEL	INDOOR UNIT		MCM 025DR
	OUTDOOR UNIT		MLC 025CR
INDOOR MOTOR	INSULATION GRADE		CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	RATED INPUT POWER	W	109
	RATED RUNNING CURRENT	A	0.49
	MOTOR OUTPUT	W	65
	POLES		4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	RATED INPUT POWER	W	132
	RATED RUNNING CURRENT	A	0.58
	MOTOR OUTPUT	W	64
	POLES		6
COMPRESSOR	INSULATION GRADE		CLASS E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	CAPACITOR	μF	50.0
	RATED INPUT POWER (COOLING)	W	2340
	RATED INPUT POWER (HEATING)	W	2260
	RATED RUNNING CURRENT (COOLING)	A	10.5
	RATED RUNNING CURRENT (HEATING)	A	10.2
	LOCKED ROTOR AMP.	A	54

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Heat Pump (R22)

MODEL	INDOOR UNIT		MCM 030DR	
	OUTDOOR UNIT		MLC 028CR	MLC 030CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	110	
	RATED RUNNING CURRENT	A	0.49	
	MOTOR OUTPUT	W	65	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	142	220
	RATED RUNNING CURRENT	A	0.62	1.02
	MOTOR OUTPUT	W	75	145
	POLES		6	8
COMPRESSOR	INSULATION GRADE		CLASS E	-
	POWER SOURCE - 1Ø <3Ø>	V/Ph/Hz	220 - 240 / 1 / 50 / <380 - 415 / 3 / 50>	
	CAPACITOR - 1Ø <3Ø>	µF	50.0	50.0 / <NIL>
	RATED INPUT POWER (COOLING) - 1Ø / <3Ø>	W	2642	2551 / <2531>
	RATED INPUT POWER (HEATING) - 1Ø / <3Ø>	W	2422	2591 / <2571>
	RATED RUNNING CURRENT (COOLING) - 1Ø / <3Ø	A	13.2	12.3 / <4.2>
	RATED RUNNING CURRENT (HEATING) - 1Ø / <3Ø>	A	12.5	12.5 / <4.4>
	LOCKED ROTOR AMP. - 1Ø / <3Ø>	A	66	82 / <35>

MODEL	INDOOR UNIT		MCM 040DR	
	OUTDOOR UNIT		MLC 035CR	MLC 040CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	153	
	RATED RUNNING CURRENT	A	0.68	
	MOTOR OUTPUT	W	100	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	220	
	RATED RUNNING CURRENT	A	1.02	
	MOTOR OUTPUT	W	145	
	POLES		8	
COMPRESSOR	INSULATION GRADE		-	-
	POWER SOURCE - 1Ø <3Ø>	V/Ph/Hz	220 - 240 / 1 / 50 / <380 - 415 / 3 / 50>	
	CAPACITOR - 1Ø <3Ø>	µF	60.0	60.0 / <NIL>
	RATED INPUT POWER (COOLING) - 1Ø / <3Ø>	W	2607	3010 / <2980>
	RATED INPUT POWER (HEATING) - 1Ø / <3Ø>	W	2607	2890 / <2860>
	RATED RUNNING CURRENT (COOLING) - 1Ø / <3Ø	A	13.5	14.8 / <4.2>
	RATED RUNNING CURRENT (HEATING) - 1Ø / <3Ø>	A	13.5	14.2 / <3.6>
	LOCKED ROTOR AMP. - 1Ø / <3Ø>	A	97	114 / <48>

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Heat Pump (R22)

MODEL	INDOOR UNIT		MCM 050DR	MCM 062CR
	OUTDOOR UNIT		MLC 050CR	MLC 061CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	171	327
	RATED RUNNING CURRENT	A	0.76	1.4
	MOTOR OUTPUT	W	100	80 x 2
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	220	258
	RATED RUNNING CURRENT	A	1.02	1.20
	MOTOR OUTPUT	W	145	400
	POLES		8	6
COMPRESSOR	INSULATION GRADE		-	-
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	
	CAPACITOR	μF	NIL	NIL
	RATED INPUT POWER (COOLING)	W	4100	5008
	RATED INPUT POWER (HEATING)	W	3690	3966
	RATED RUNNING CURRENT (COOLING)	A	6.5	8.5
	RATED RUNNING CURRENT (HEATING)	A	4.4	7.2
	LOCKED ROTOR AMP.	A	66	74

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Cooling only (R410A)

MODEL	**INDOOR UNIT**		**M5CM 040D**	
	OUTDOOR UNIT		**M5LC 035C**	**M5LC 040C**
INDOOR MOTOR	**INSULATION GRADE**		CLASS E	
	POWER SOURCE	**V/Ph/Hz**	220 - 240 / 1 / 50	
	RATED INPUT POWER	**W**	153	
	RATED RUNNING CURRENT	**A**	0.68	
	MOTOR OUTPUT	**W**	100	
	POLES		4	
OUTDOOR MOTOR	**INSULATION GRADE**		CLASS B	
	POWER SOURCE	**V/Ph/Hz**	220 - 240 / 1 / 50	
	RATED INPUT POWER	**W**	220	
	RATED RUNNING CURRENT	**A**	1.02	
	MOTOR OUTPUT	**W**	145	
	POLES		8	
COMPRESSOR	**INSULATION GRADE**		-	
	POWER SOURCE - 1Ø / <3Ø>	**V/Ph/Hz**	220 / 1 / 50 / <380 - 415 / 3 / 50>	
	CAPACITOR - 1Ø / <3Ø>	**µF**	60.0 / <NIL>	40.0 x 2 / <NIL>
	RATED INPUT POWER - 1Ø / <3Ø>	**W**	2775 / <2675>	3581 / <3527>
	RATED RUNNING CURRENT - 1Ø / <3Ø>	**A**	14.0 / <4.9>	17.0 / <7.9>
	LOCKED ROTOR AMP. - 1Ø / <3Ø>	**A**	97 / <48>	136 / <64>

MODEL	**INDOOR UNIT**		**M5CM 050D**	**M5CM 062C**
	OUTDOOR UNIT		**M5LC 050C**	**M5LC 061C**
INDOOR MOTOR	**INSULATION GRADE**		CLASS E	
	POWER SOURCE	**V/Ph/Hz**	220 - 240 / 1 / 50	
	RATED INPUT POWER	**W**	171	327
	RATED RUNNING CURRENT	**A**	0.76	1.40
	MOTOR OUTPUT	**W**	100	80 x 2
	POLES		4	4
OUTDOOR MOTOR	**INSULATION GRADE**		CLASS F	
	POWER SOURCE	**V/Ph/Hz**	220 - 240 / 1 / 50	
	RATED INPUT POWER	**W**	300	575
	RATED RUNNING CURRENT	**A**	1.42	2.54
	MOTOR OUTPUT	**W**	180	600
	POLES		8	6
COMPRESSOR	**INSULATION GRADE**		-	-
	POWER SOURCE	**V/Ph/Hz**	380 - 415 / 3 / 50	
	CAPACITOR	**µF**	NIL	NIL
	RATED INPUT POWER	**W**	4175	5512
	RATED RUNNING CURRENT	**A**	7.5	8.3
	LOCKED ROTOR AMP.	**A**	74	74

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

Electrical Data - Heat pump (R410A)

MODEL	INDOOR UNIT		M5CM 040DR	
	OUTDOOR UNIT		M5LC 035CR	M5LC 040CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	153	
	RATED RUNNING CURRENT	A	0.68	
	MOTOR OUTPUT	W	100	
	POLES		4	
OUTDOOR MOTOR	INSULATION GRADE		CLASS B	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	220	
	RATED RUNNING CURRENT	A	1.02	
	MOTOR OUTPUT	W	145	
	POLES		8	
COMPRESSOR	INSULATION GRADE		-	
	POWER SOURCE - 1Ø <3Ø>	V/Ph/Hz	220 - 240 / 1 / 50 / <380 - 415 / 3 / 50>	
	CAPACITOR - 1Ø <3Ø>	μF	60.0 / <NIL>	40.0 x 2 / <NIL>
	RATED INPUT POWER (COOLING) - 1Ø / <3Ø>	W	2775 / <2675>	3581 / <3527>
	RATED INPUT POWER (HEATING) - 1Ø / <3Ø>	W	2585 / <2475>	3097 / <3077>
	RATED RUNNING CURRENT (COOLING) - 1Ø / <3Ø>	A	14.0 / <4.9>	17.0 / <7.9>
	RATED RUNNING CURRENT (HEATING) - 1Ø / <3Ø>	A	13.0 / <4.7>	15.8 / <7.3>
	LOCKED ROTOR AMP. - 1Ø / <3Ø>	A	97 / <48>	136 / <64>

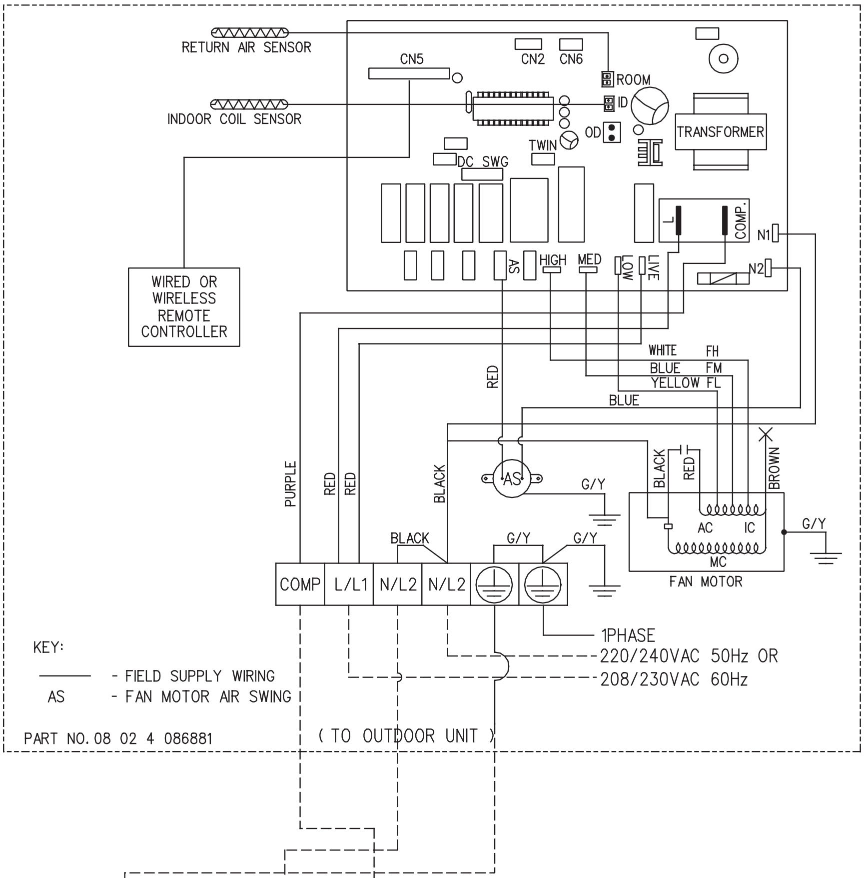
MODEL	INDOOR UNIT		M5CM 050DR	M5CM 062CR
	OUTDOOR UNIT		M5LC 050CR	M5LC 061CR
INDOOR MOTOR	INSULATION GRADE		CLASS E	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	171	327
	RATED RUNNING CURRENT	A	0.76	1.40
	MOTOR OUTPUT	W	100	80 x 2
	POLES		4	4
OUTDOOR MOTOR	INSULATION GRADE		CLASS F	
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	
	RATED INPUT POWER	W	300	575
	RATED RUNNING CURRENT	A	1.42	2.54
	MOTOR OUTPUT	W	180	600
	POLES		8	6
COMPRESSOR	INSULATION GRADE		-	-
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	
	CAPACITOR	μF	NIL	NIL
	RATED INPUT POWER (COOLING)	W	4175	5512
	RATED INPUT POWER (HEATING)	W	4055	5447
	RATED RUNNING CURRENT (COOLING)	A	7.5	8.3
	RATED RUNNING CURRENT (HEATING)	A	7.4	7.1
	LOCKED ROTOR AMP.	A	74	74

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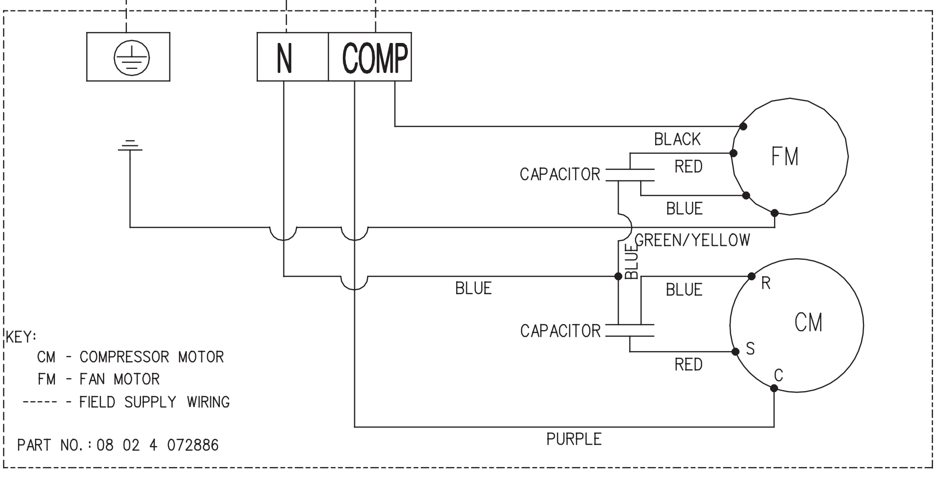
Wiring Diagrams

Cooling only

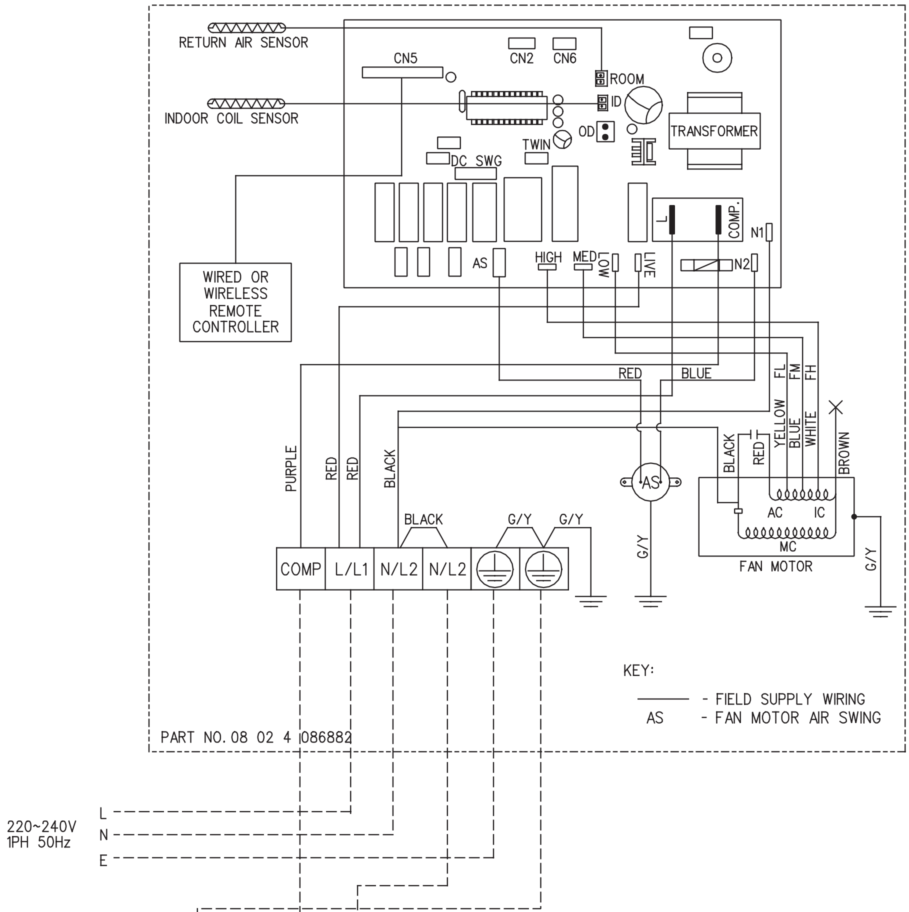
Indoor Unit
Model : MCM 020 / 025D



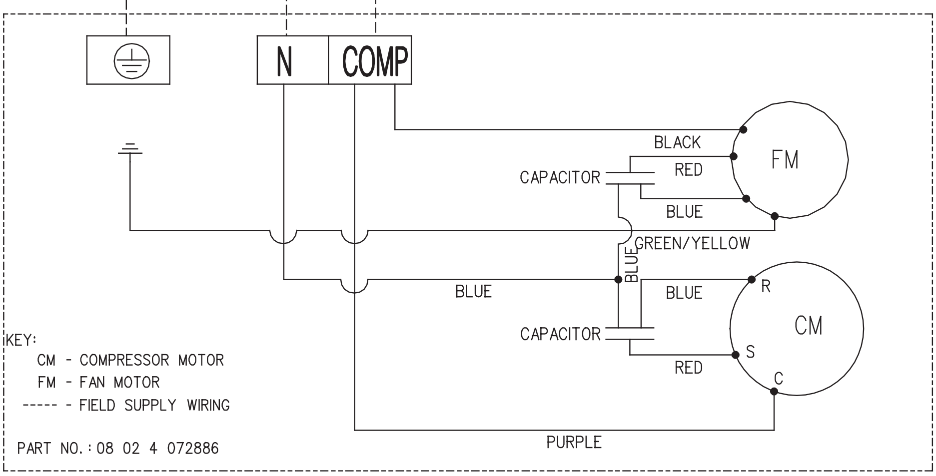
Outdoor Unit
Model : MLC 018 / 020 / 025C



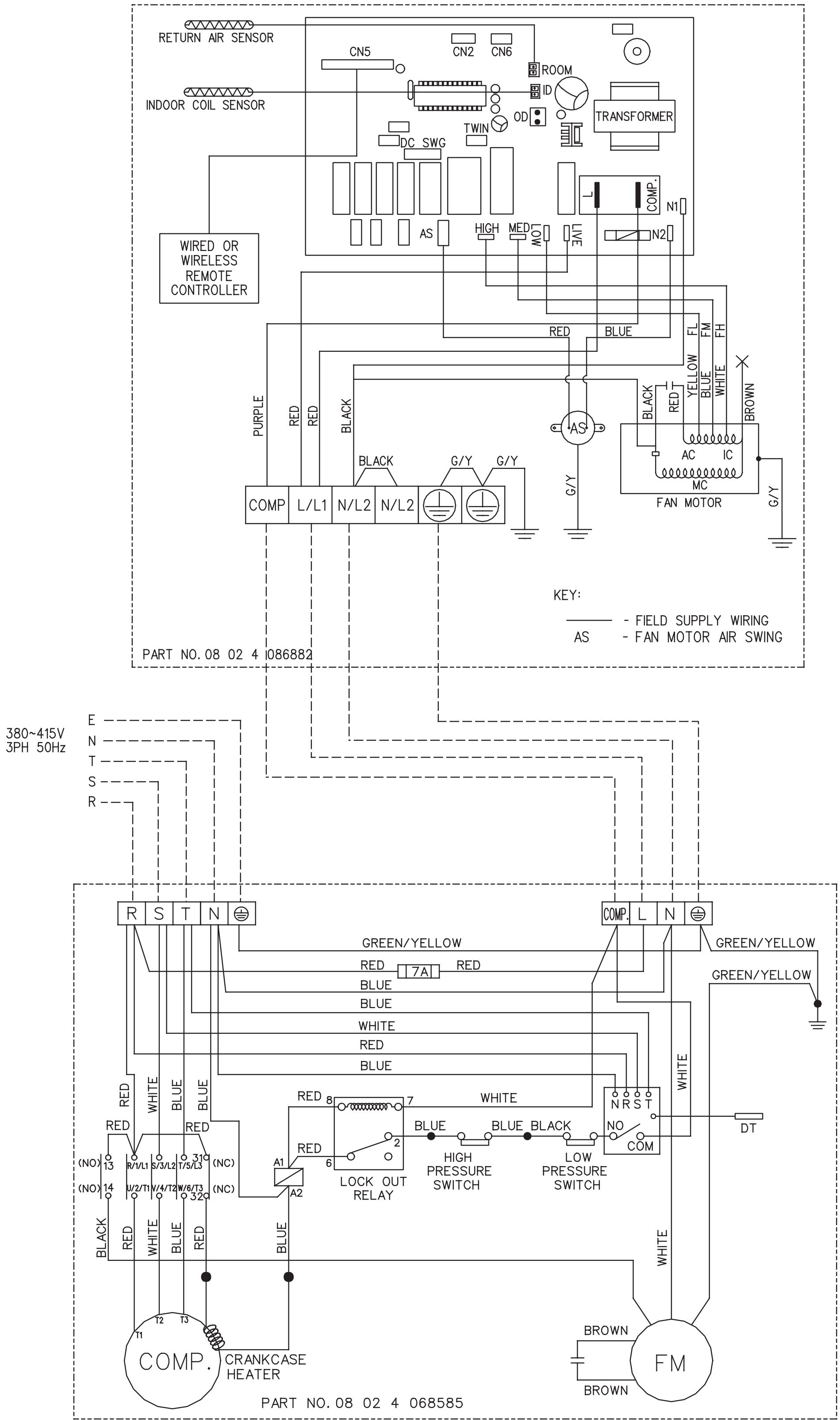
Indoor Unit
Model : MCM 030D



Outdoor Unit
Model : MLC 028C

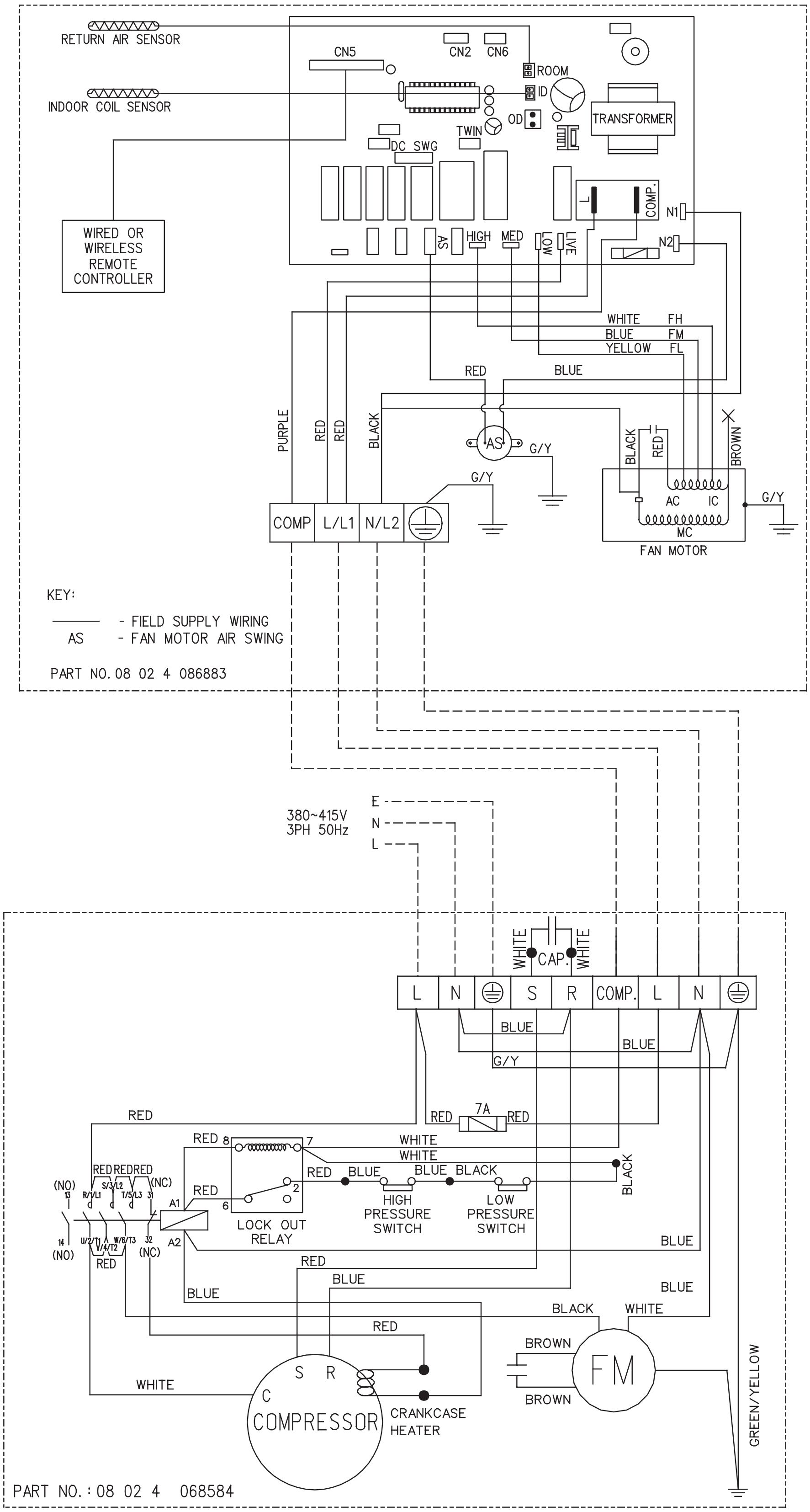


Indoor Unit
Model : MCM 030D



Indoor Unit
Model : MLC 030C

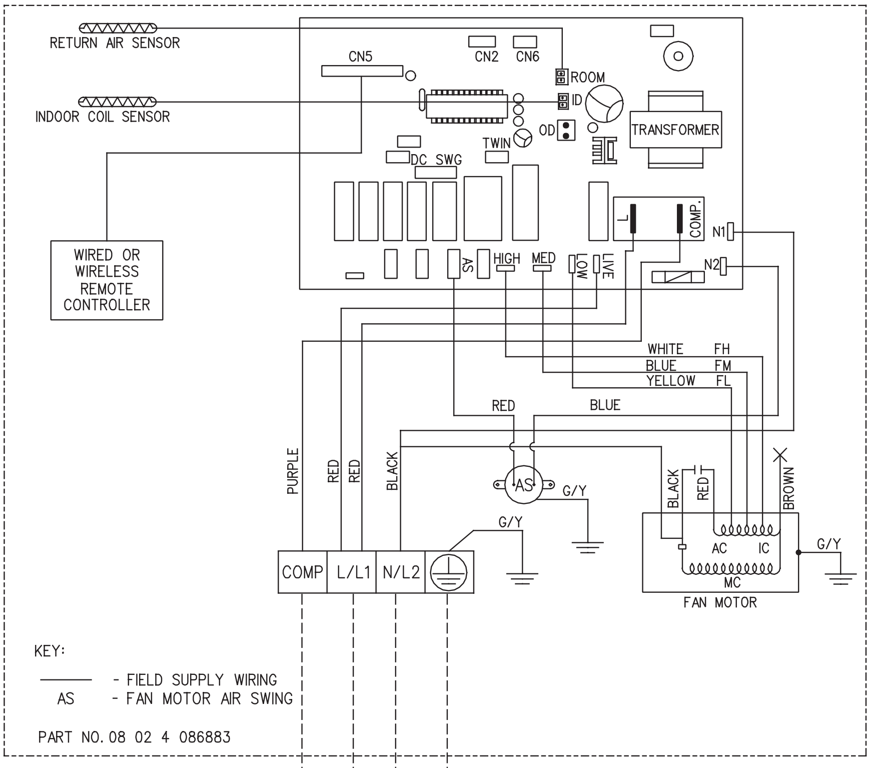
Indoor Unit
Model : MCM 040D

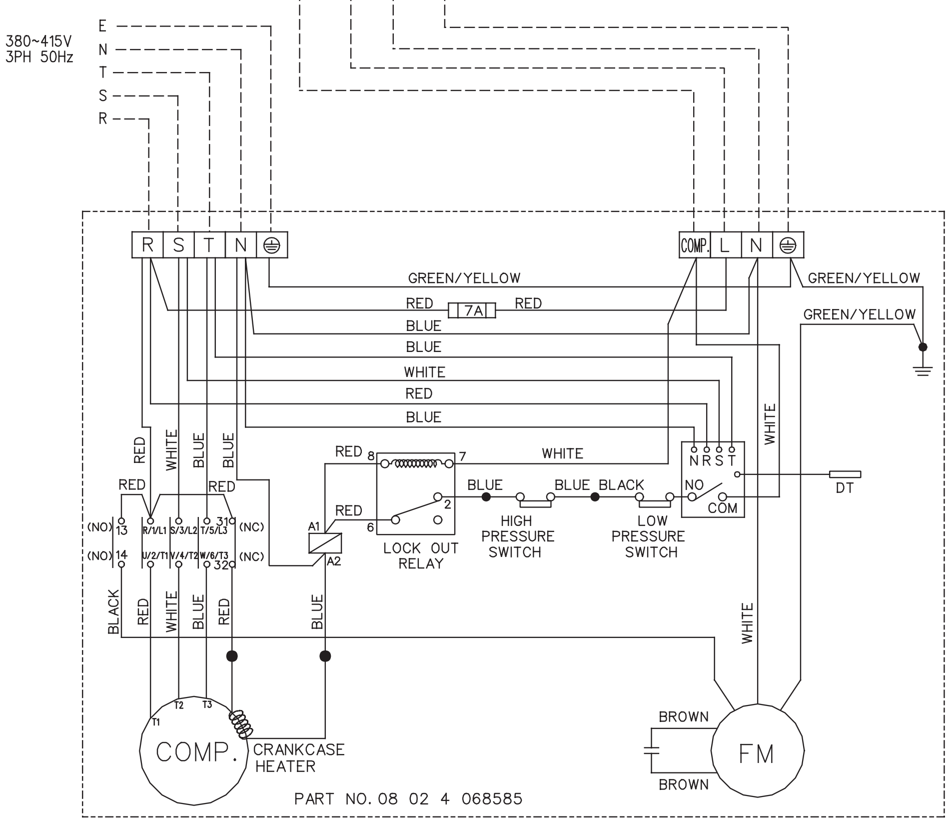


Outdoor Unit
Model : MLC 035 / 040C (1 Phase)

Indoor Unit

Model : MCM / M5CM 040D, MCM 050CD

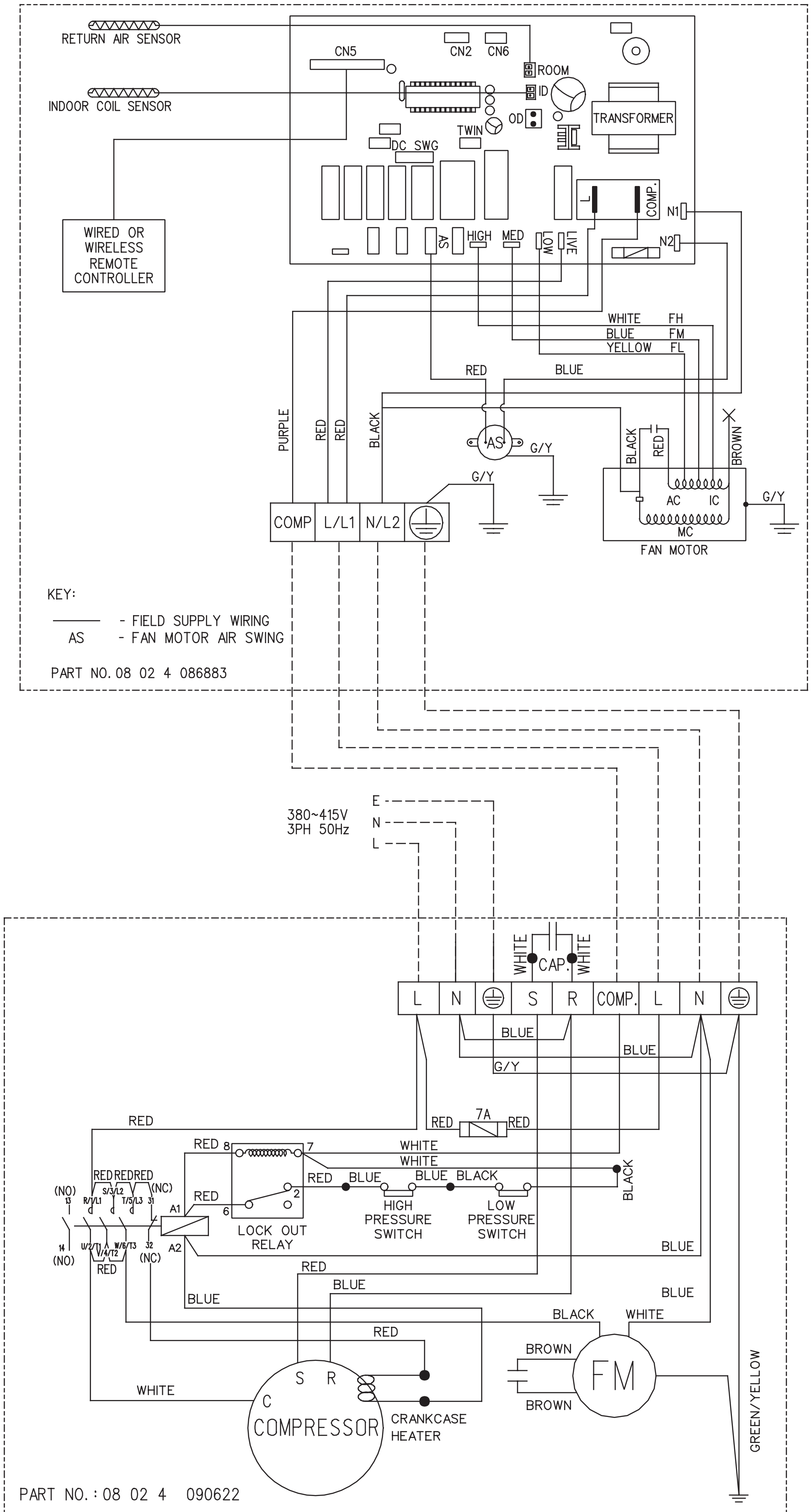




Outdoor Unit

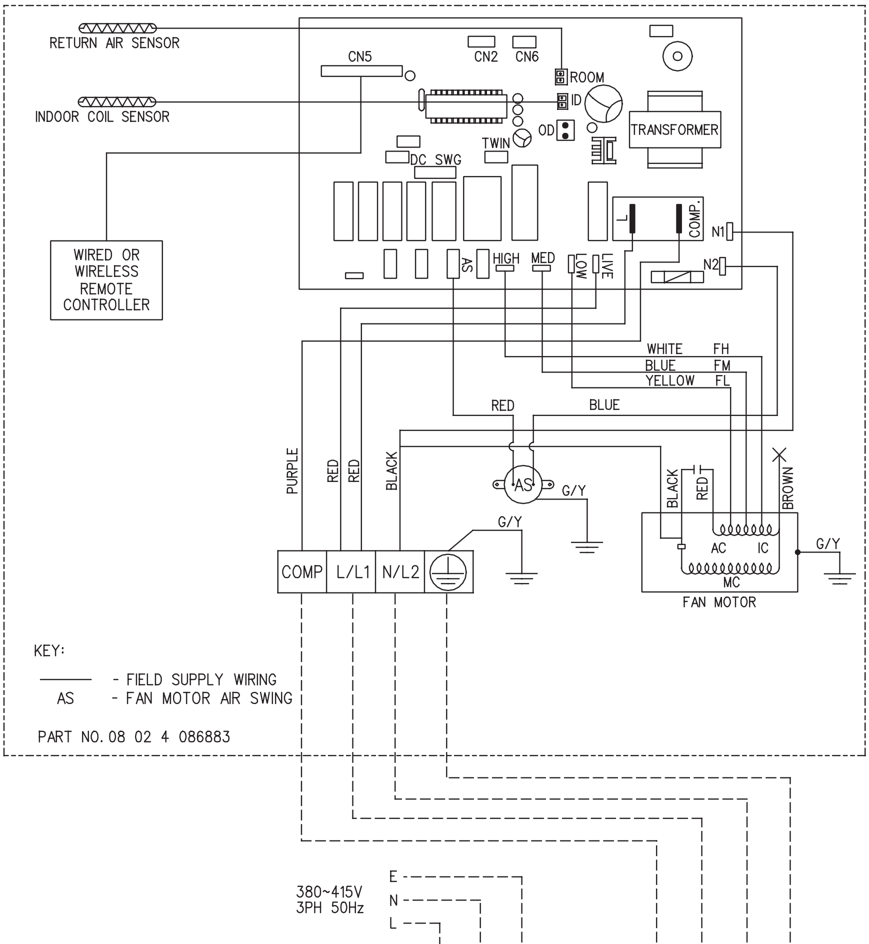
Model : MLC / M5LC 040C, M5LC 035C , MLC 050C (3 Phase)

Indoor Unit
Model : M5CM 040D

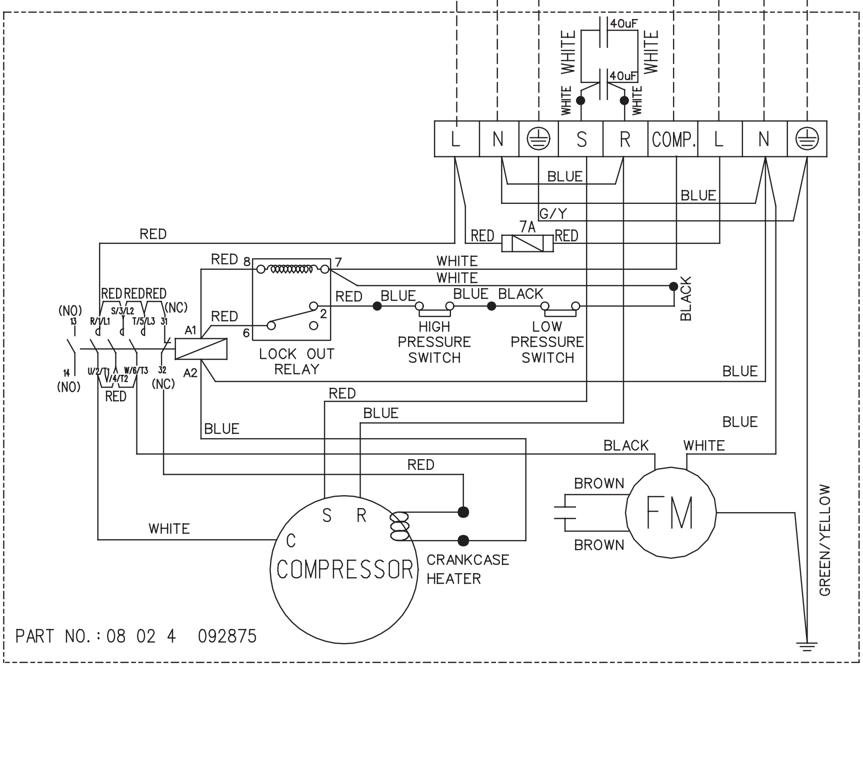


Outdoor Unit
Model : M5LC 035C (1 Phase)

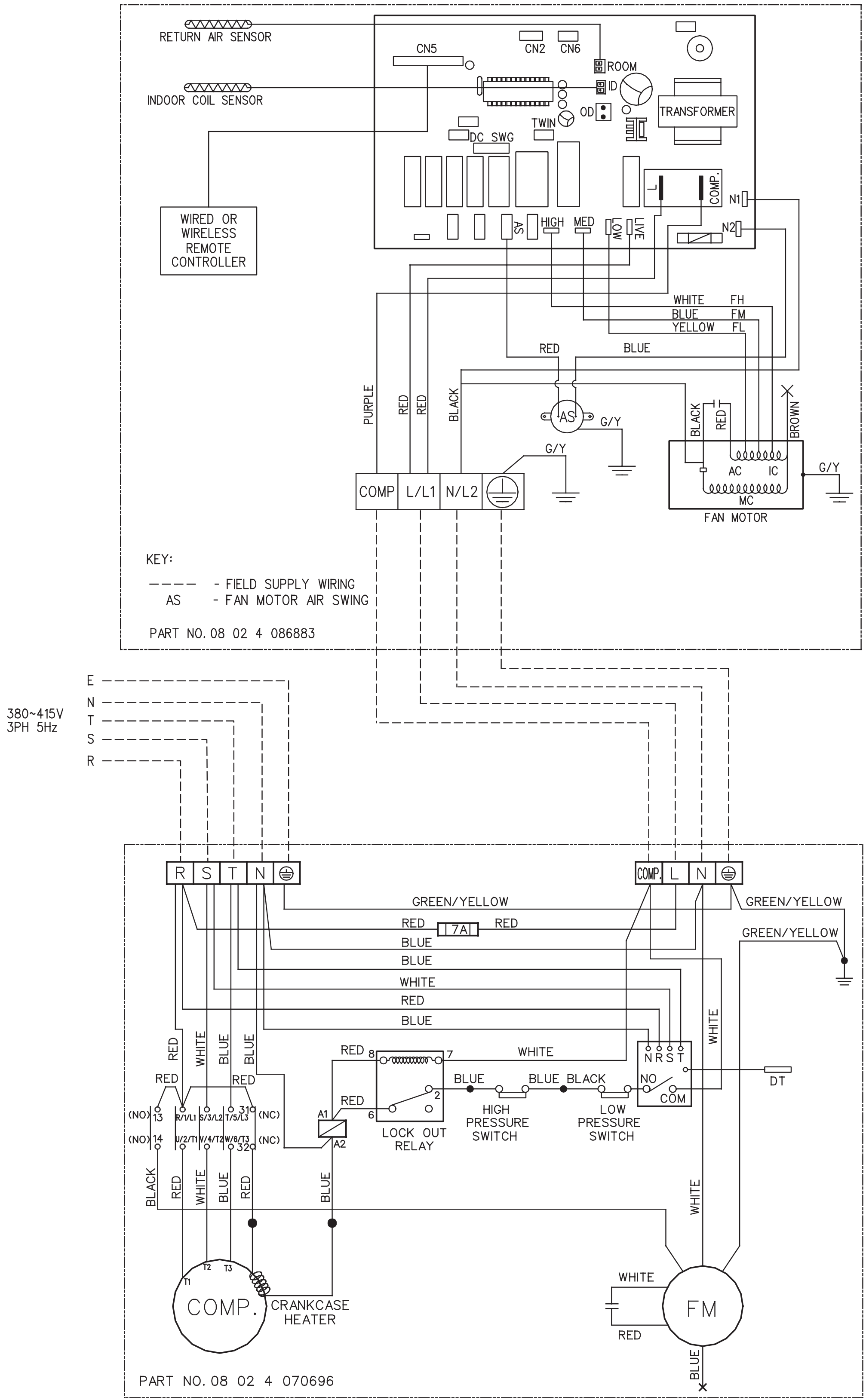
Indoor Unit
Model : M5CM 040D



Outdoor Unit
Model : M5LC 040C (1 Phase)

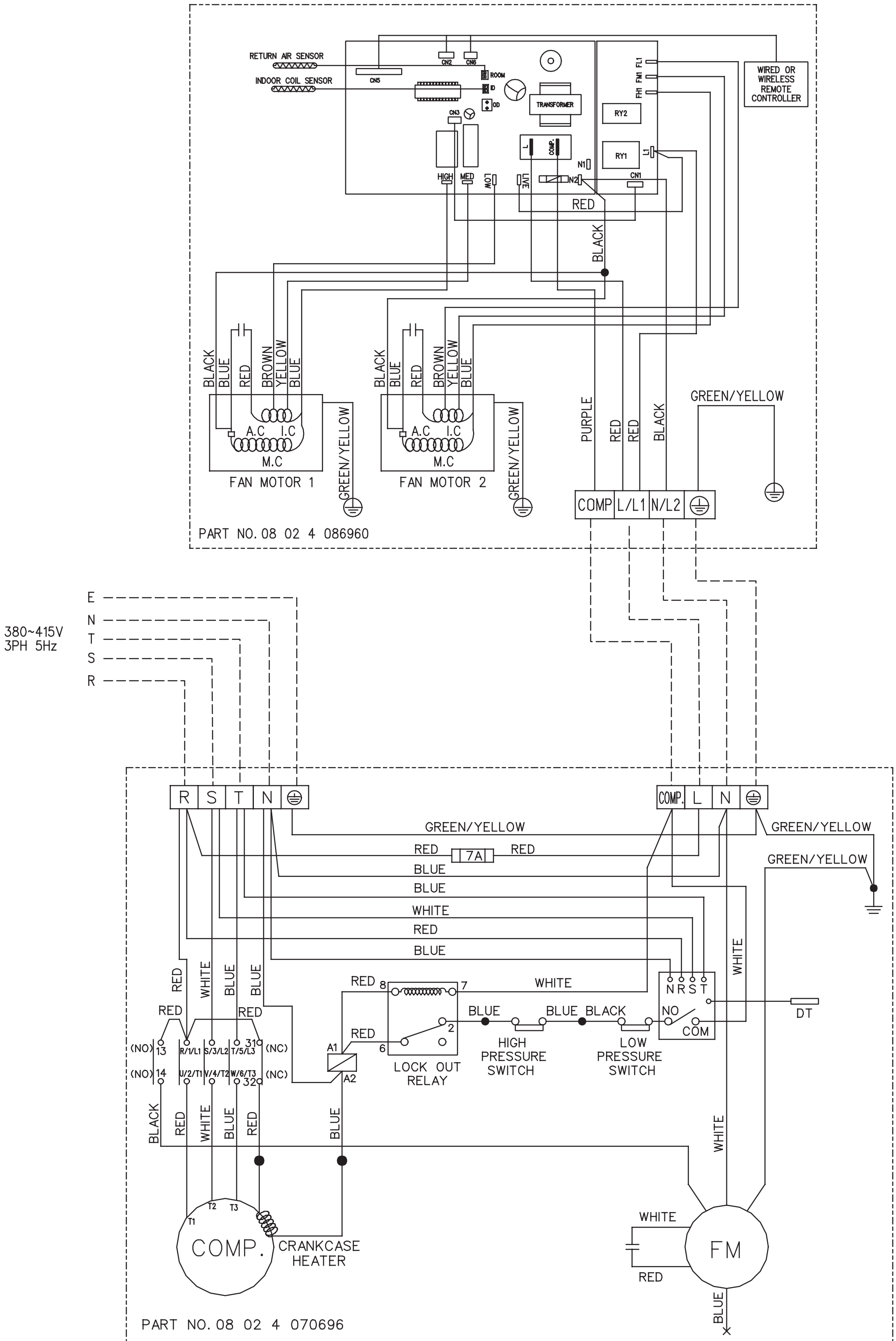


Indoor Unit
Model : M5CM 050C



Outdoor Unit
Model : M5LC 050C

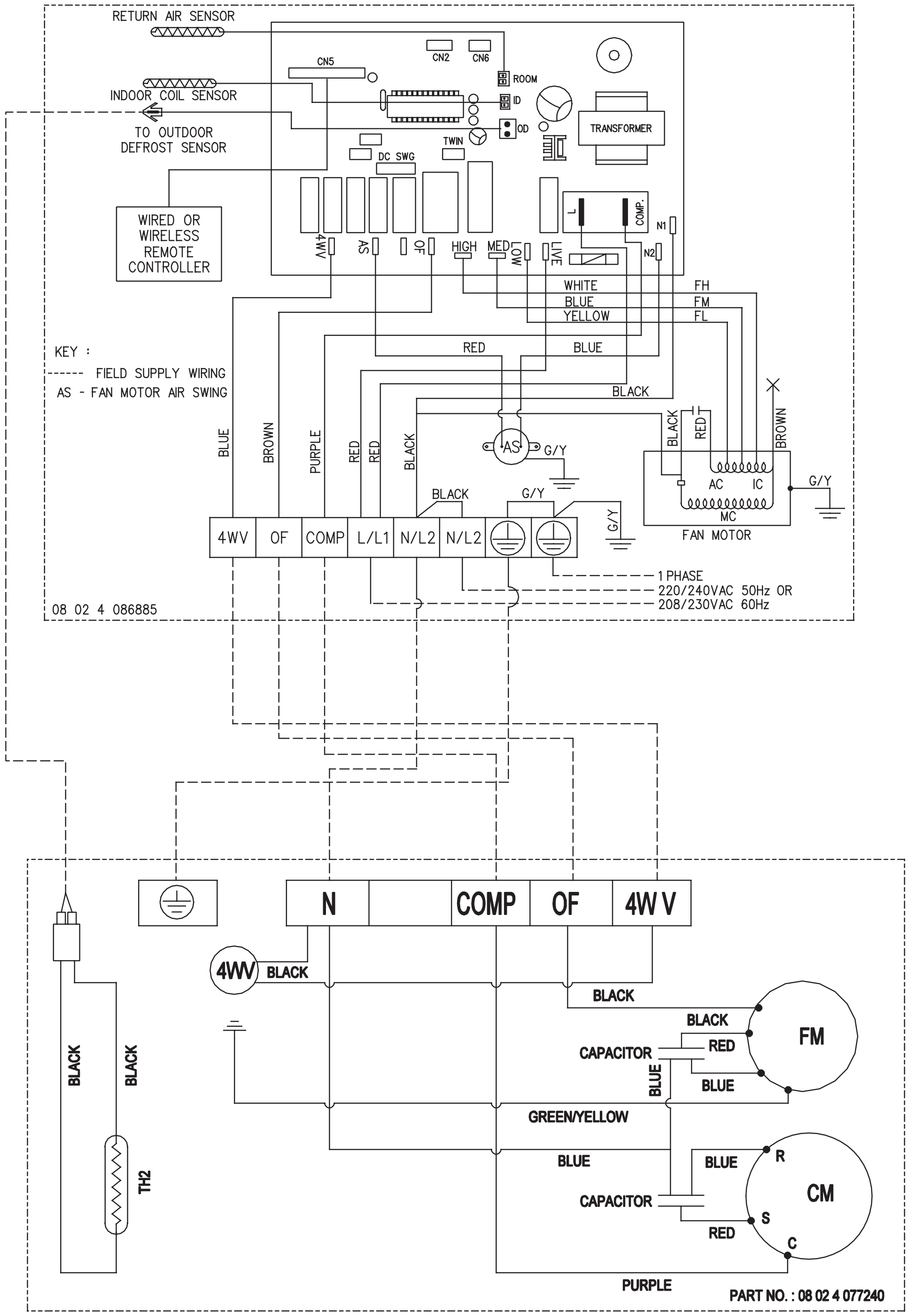
Indoor Unit
Model : MCM / M5CM 062C



Outdoor Unit
Model : MLC / M5LC 061C

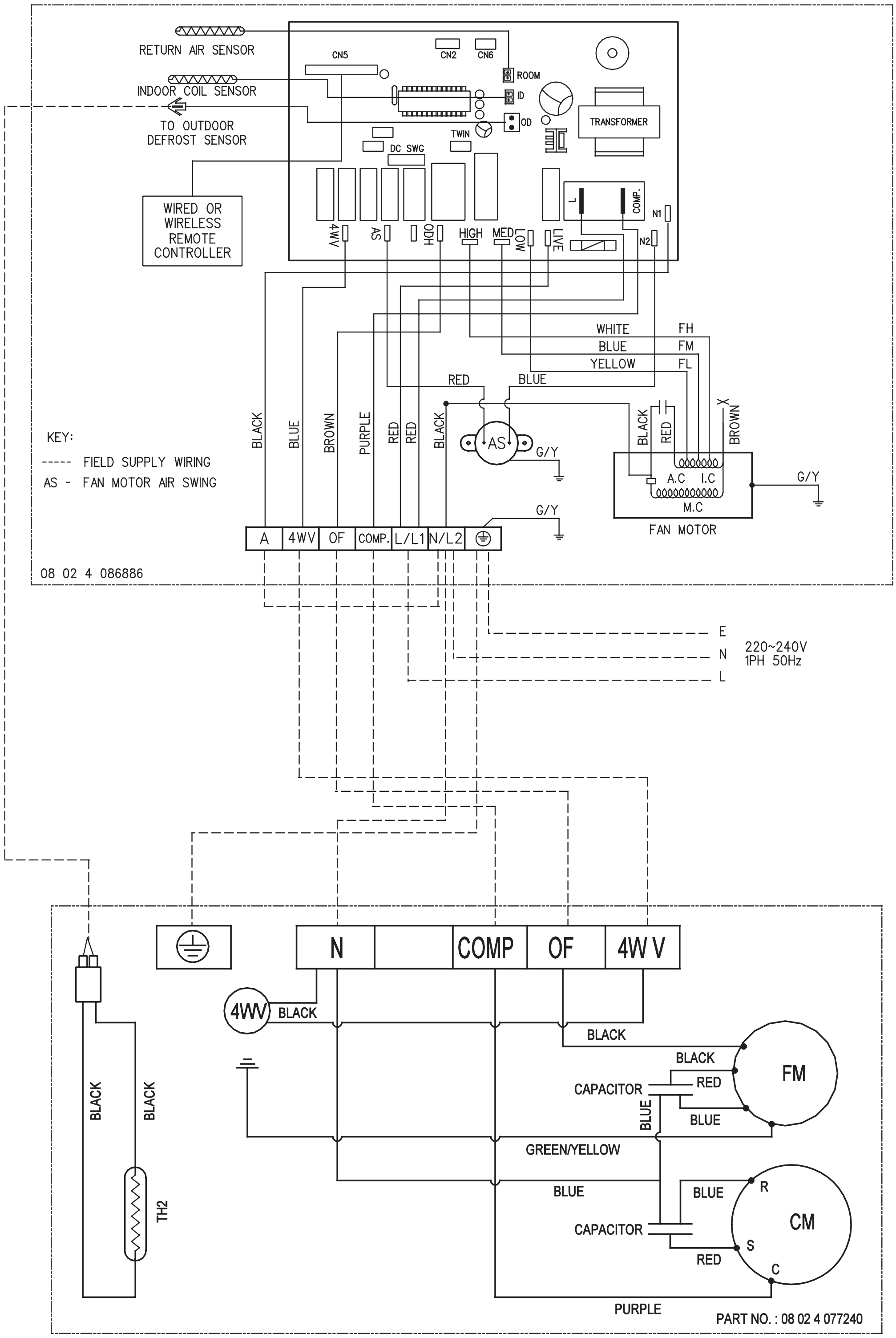
Heatpump

Indoor Unit
Model : MCM 020 / 025DR



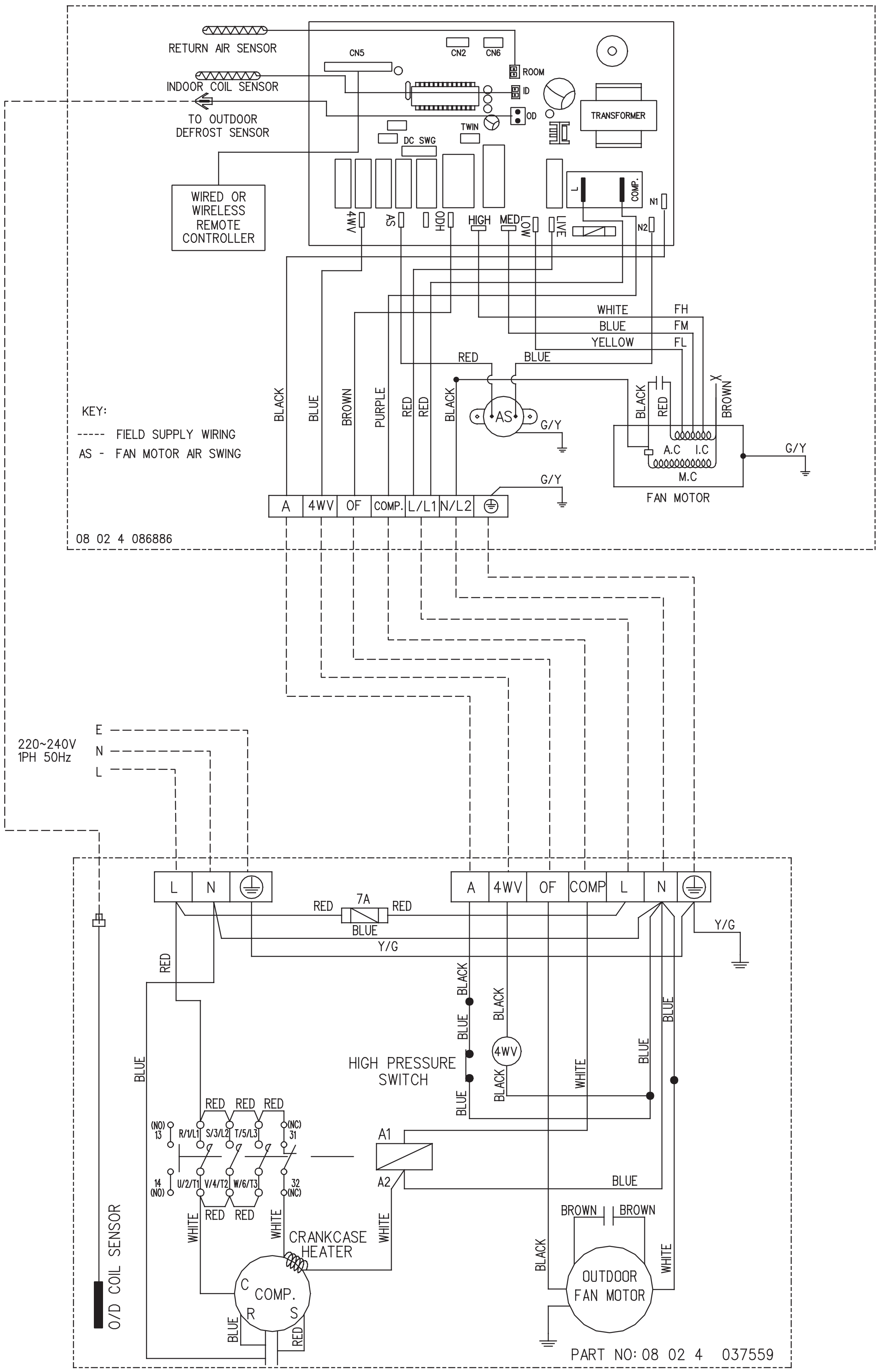
Outdoor Unit
Model : MLC 018 / 020 / 025CR

Indoor Unit
Model : MCM 030DR



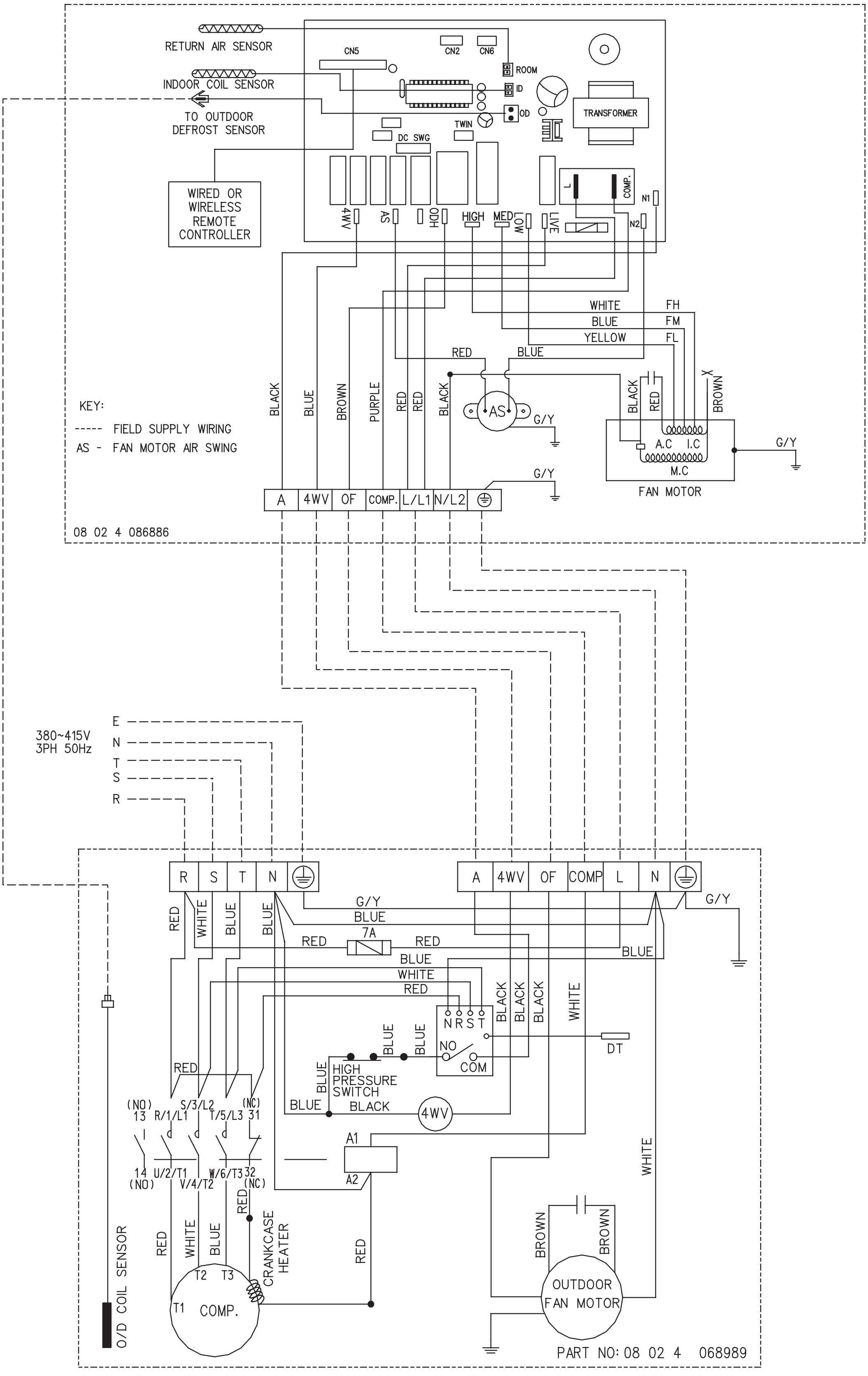
Outdoor Unit
Model : MLC 028CR

Indoor Unit
Model : MCM 030 / 040DR



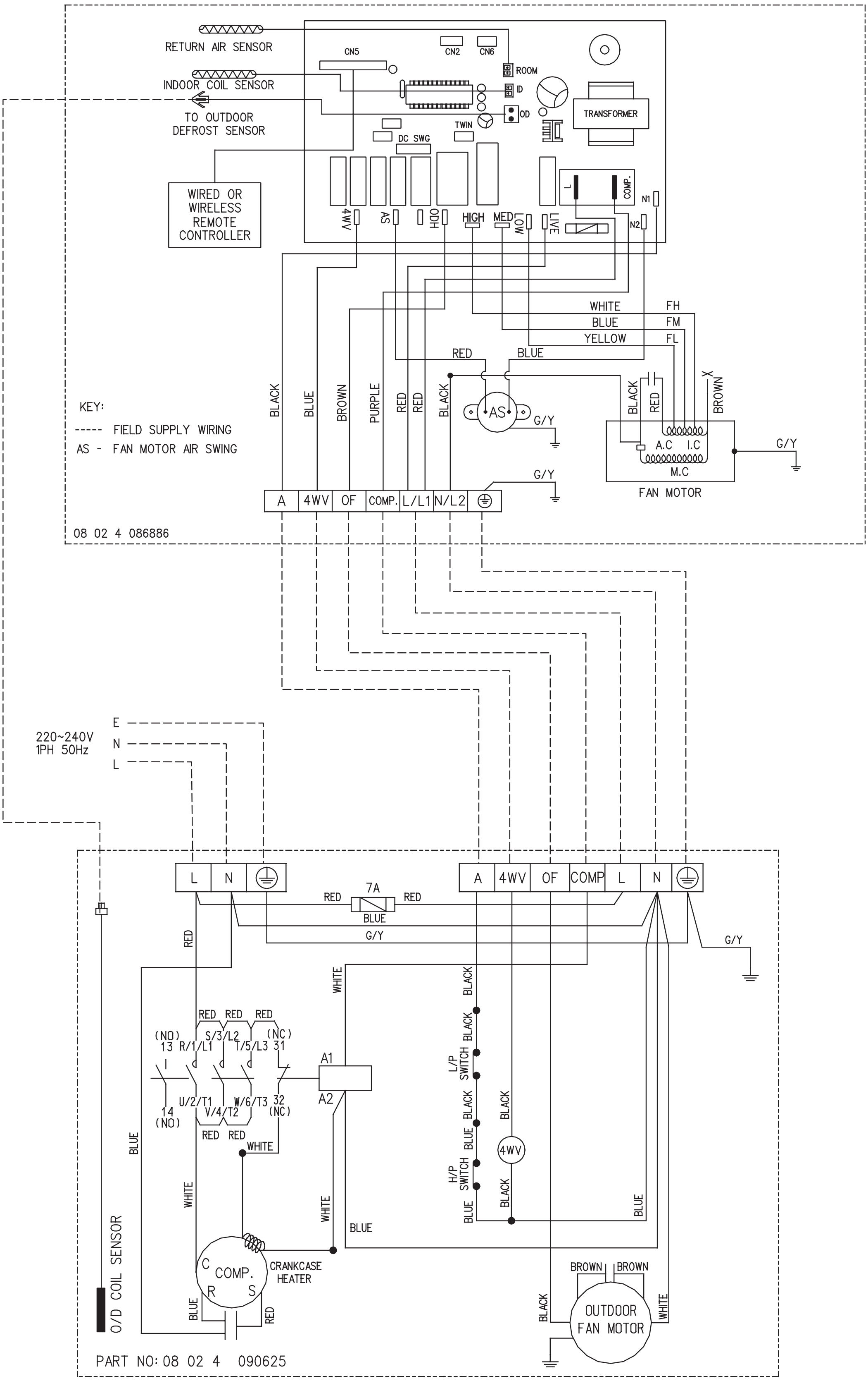
Outdoor Unit
Model : MLC 030 / 035/ 040CR (1 Phase)

Indoor Unit
Model : MCM 030 / 040/ 050DR



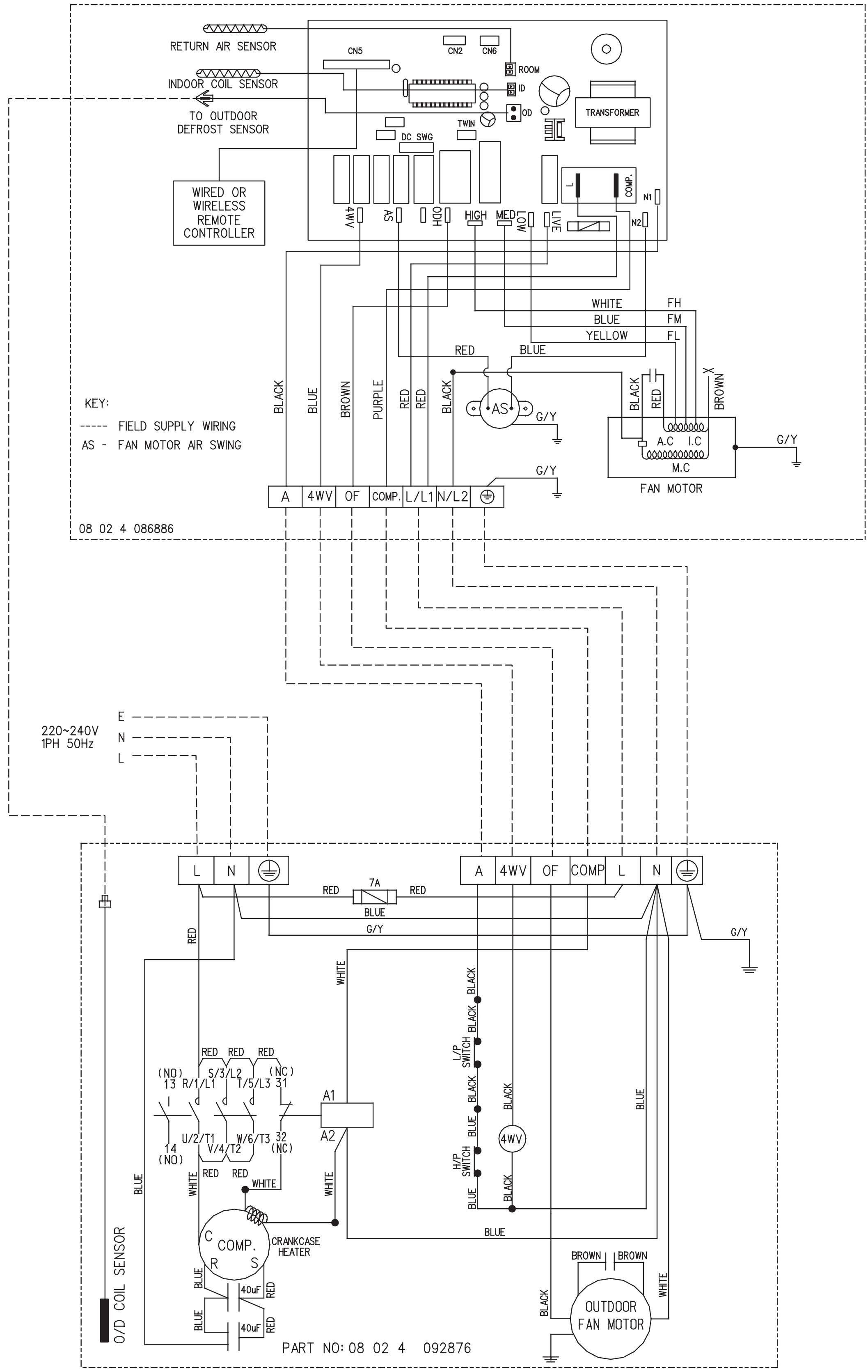
Outdoor Unit
Model : MLC 030/ 040/ 050CR (3 Phase)

Indoor Unit
Model : MCM / M5CM 040DR



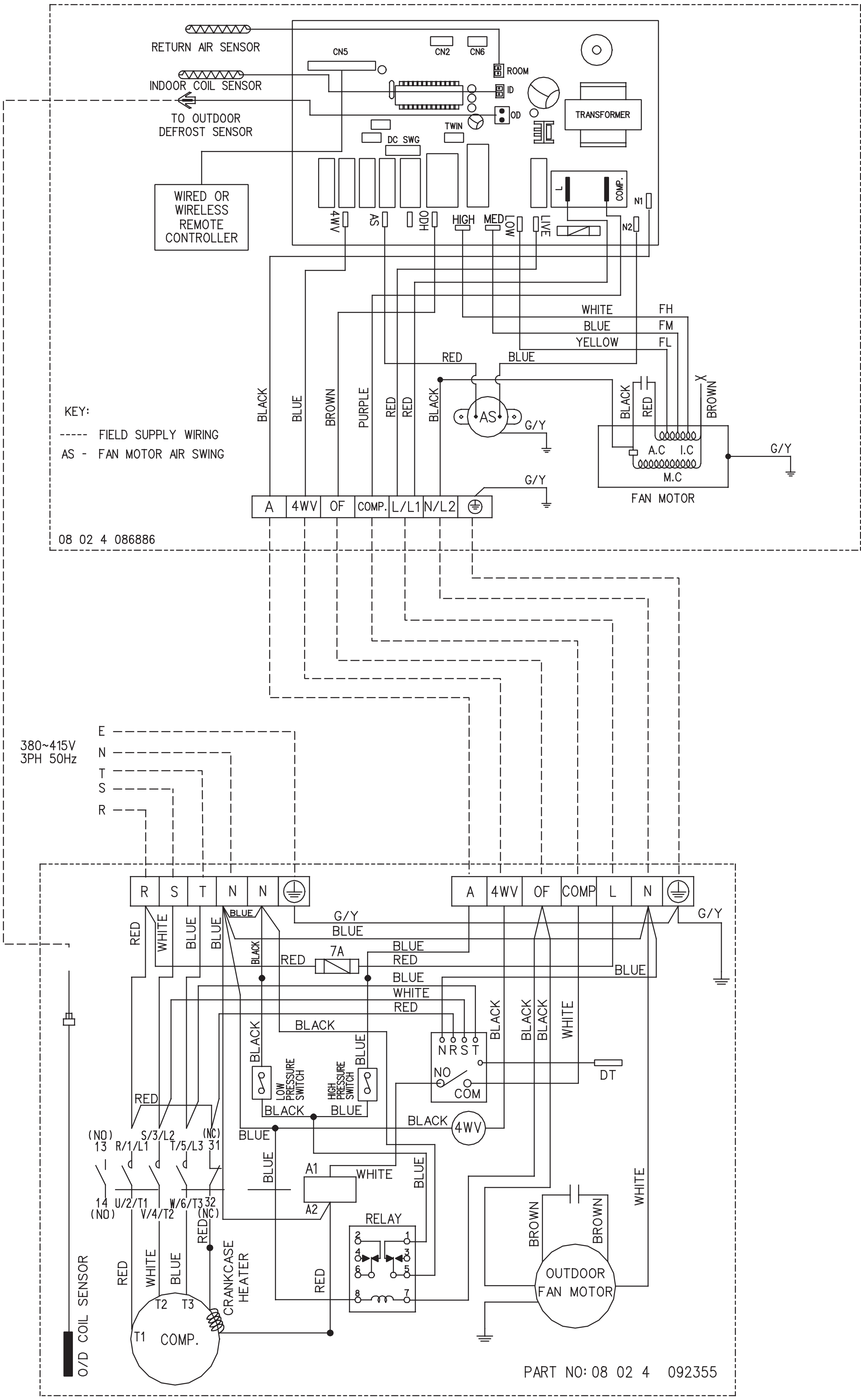
Outdoor Unit
Model : M5LC 035CR (1 Phase)

Indoor Unit
Model : M5CM 040DR



Outdoor Unit
Model : M5LC 040CR (1 Phase)

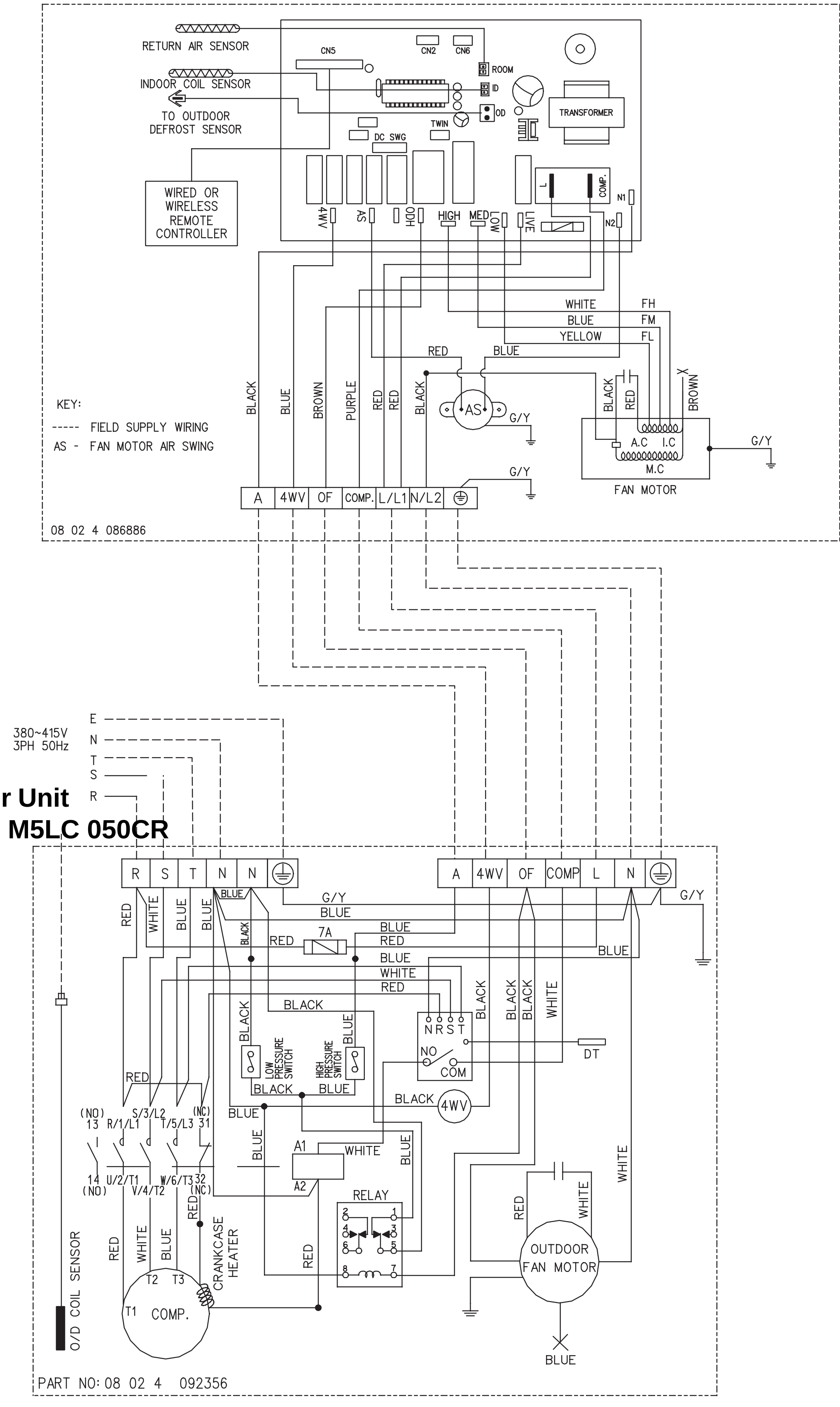
Indoor Unit
Model : M5CM 040DR



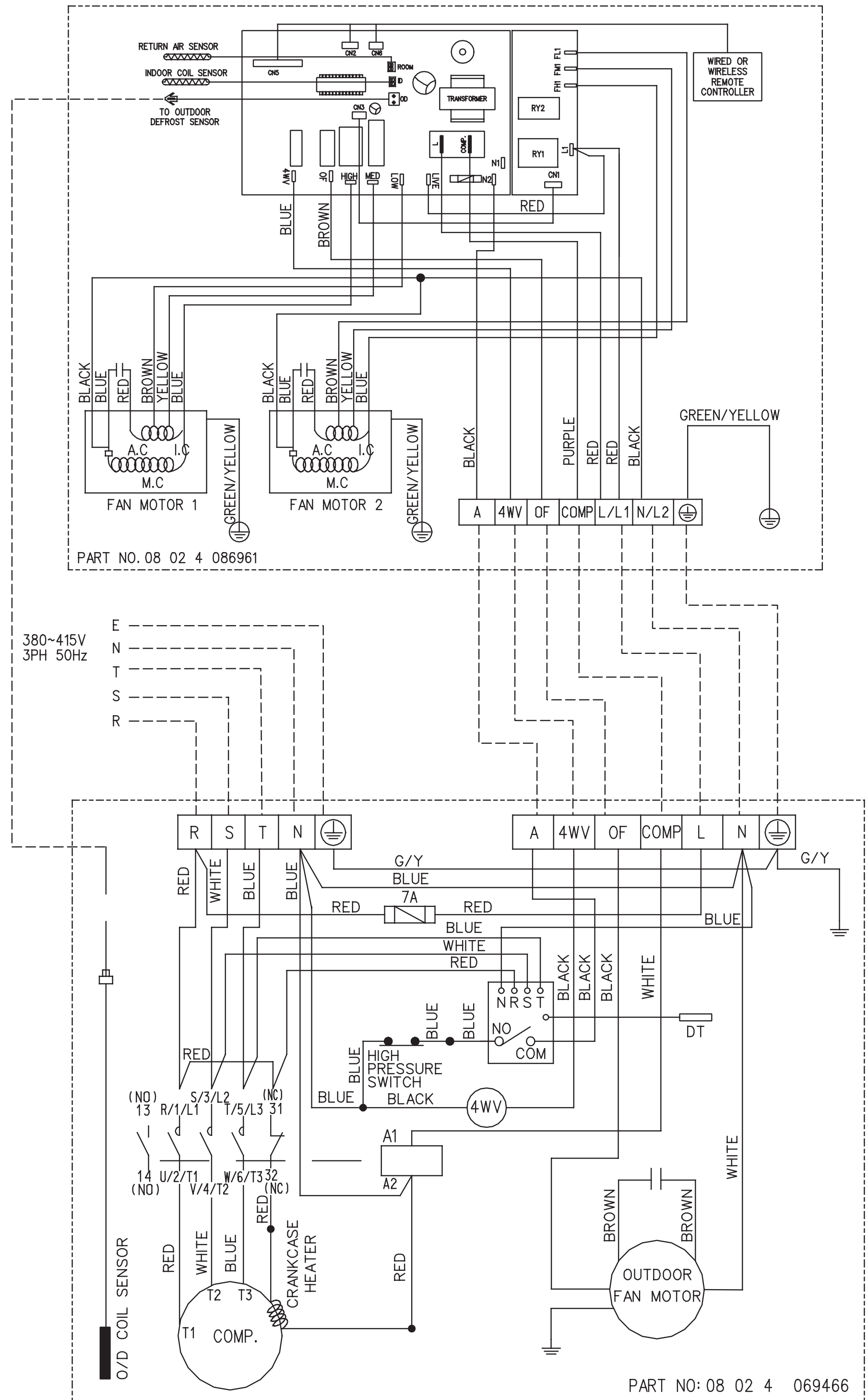
Outdoor Unit
Model : M5LC 035 / 040CR (3 Phase)

Indoor Unit
Model : M5CM 050DR

Outdoor Unit
Model : M5LC 050CR

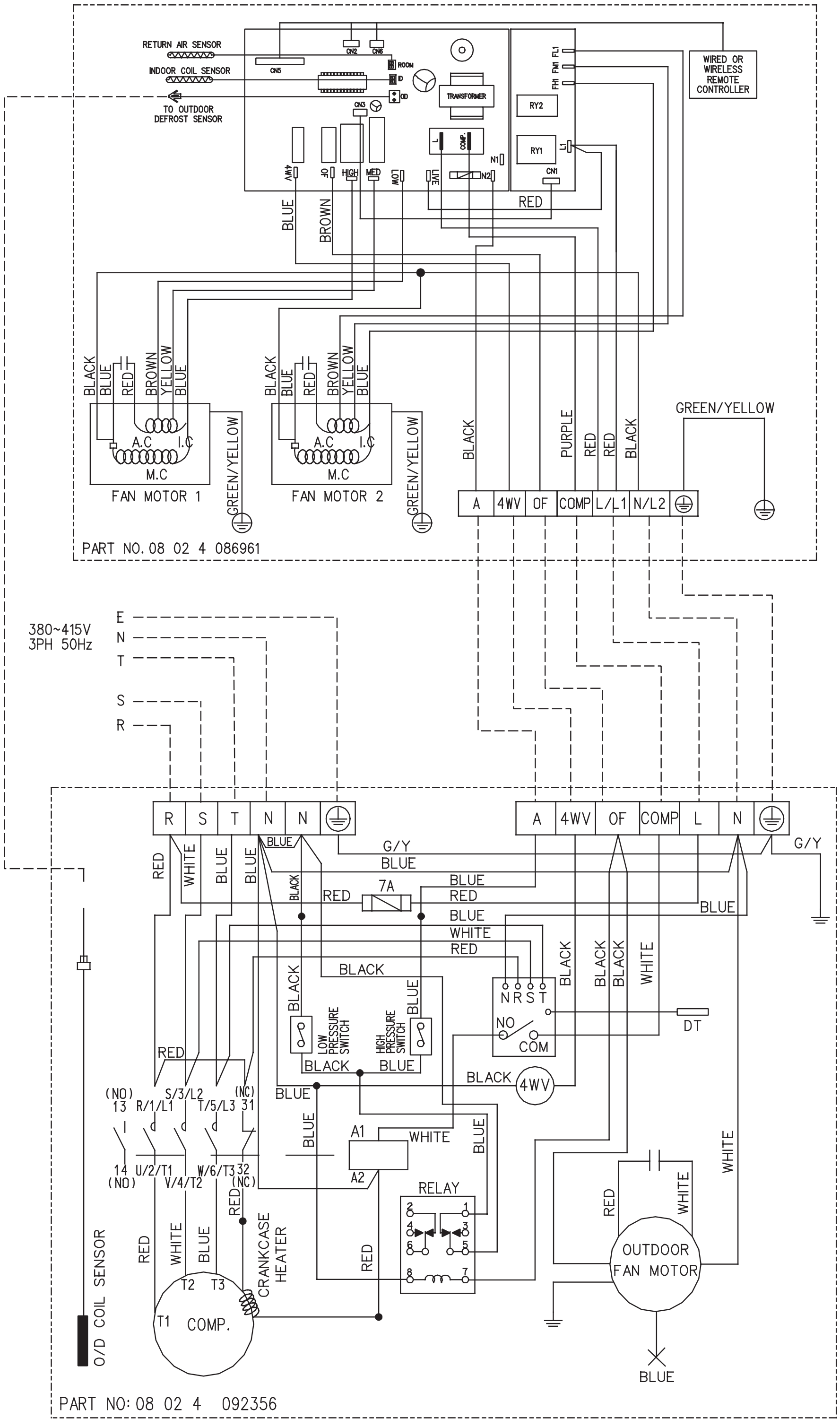


Indoor Unit
Model : MCM 062CR



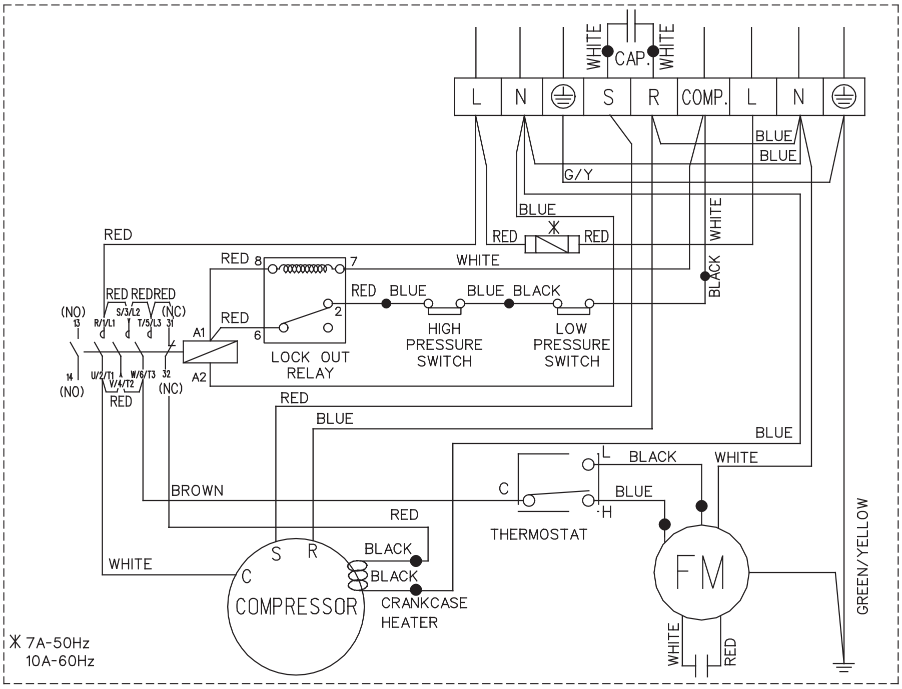
Outdoor Unit
Model : MLC 061CR

Indoor Unit
Model : M5CM 062CR

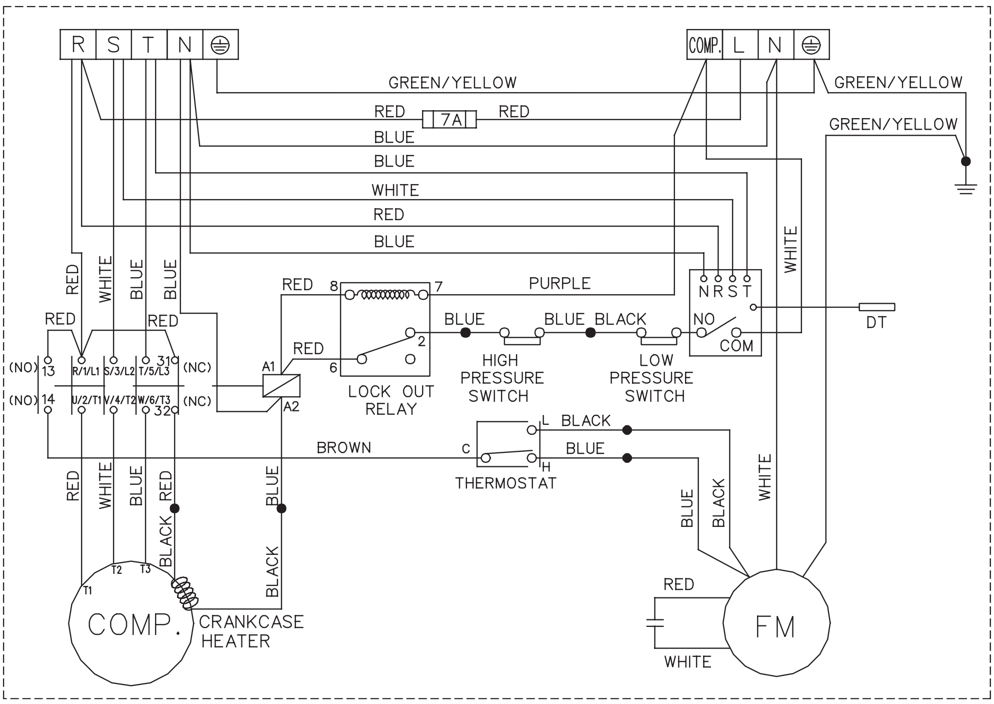


Outdoor Unit
Model : M5LC 061CR

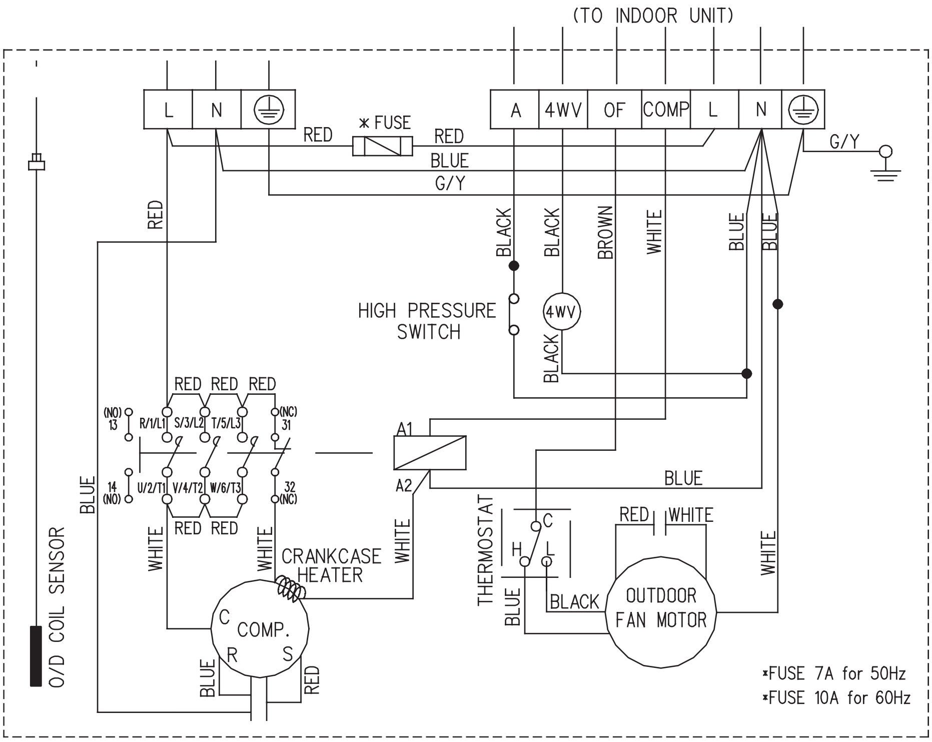
Outdoor Unit
Model : MLC 030C (Cooling only)
50Hz / 1 Phase / 220 ~ 240V



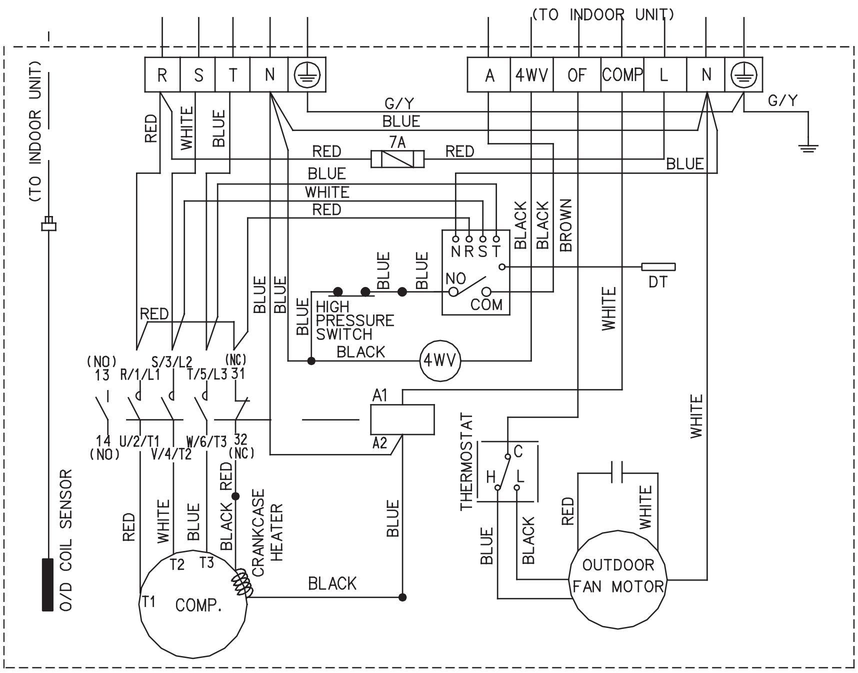
High Ambient Unit
Outdoor Unit
Model : MLC 040 / 050C (Cooling only)
50Hz / 3 Phase / 380 ~ 415V



High Ambient Unit
Outdoor Unit
Model : MLC 030CR (Heatpump)
50Hz / 1 Phase / 220 ~ 240V



Outdoor Unit
Model : MLC 040 / 050CR (Heatpump)
50Hz / 3 Phase / 380 ~ 415V



Servicing and Maintenance

⚠ **Warning: Disconnect from main supply before servicing the air conditioner.**

The unit is designed to give long life operation with minimum maintenance required. However, it should be regularly checked and the following items should be given due attention.

Components	Maintenance Procedure	Recommended Schedule
Air filter (Indoor Unit)	1. Remove the ionizer filter before cleaning the filter. 2. Remove the dust adhering on the filter by using a vacuum cleaner or wash using water less than 40°C with a neutral cleaning detergent. 3. Rinse and dry it before fitting back the ionizer filter and set it back to unit. **4. Note : Never use petrol thinner, benzene or any other chemicals.**	At least once a month.
Indoor unit	1. Clean away dirt or dust on grille or panel by wiping with soft cloth soaked in lukewarm (or cool) water or neutral detergent solution. **2. Note : Never user petrol, thinner, benzene or other volatile chemicals, which may cause plastic surface to deform**.	At least once a month.
Condense Drain Pan & Pipe	1. Check the cleanliness and clean it if necessary. 2. Check the condensate water flow.	Every 3 months.
Indoor Fan	Check if there is any abnormal noise.	If necessary.
Indoor/ Outdoor Coil	1. Check and remove the dirt between the fins. 2. Check and remove any obstacles which hinder air flow through the indoor or outdoor.	Every month.
Power Supply	1. Check the running current and voltage for indoor and outdoor unit. 2. Check the electrical wiring and tighten the wire onto the terminal block if necessary.	Every 2 months. Every year.
Compressor	No maintenance needed if refrigerant circuit remains sealed. However, check for refrigerant leak at joint and fitting.	Every 6 months.
Compressor Oil	Oil is factory charged. Not necessary to add oil if circuit remains sealed.	No maintenance required.
Fan Motor Oil	All motors are pre-lubricated and sealed at factory.	No maintenance required.

Pre Start Up Maintenance

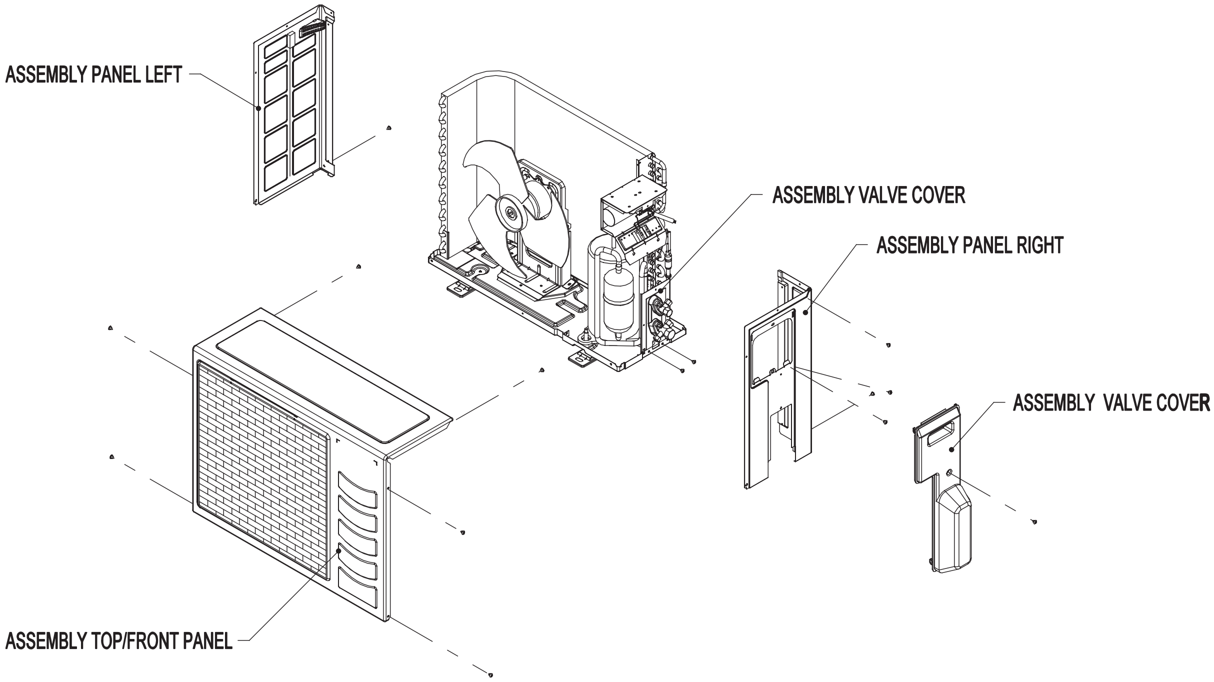
(After Extended Shutdown)

- Inspect thoroughly and clean indoor and outdoor units.
- Clean or replace air filters.
- Clean condensates drain line.
- Clean clogged indoor and outdoor coils.
- Check fan imbalance before operation.
- Tighten all wiring connections and panels.
- Check for refrigerant leakage.

For MLC Outdoor Models

The design of the MLC outdoor series allows servicing to be carried out readily and easily. The removal of the top side, front and back panel make almost every part accessible.

Under normal circumstances, these outdoor units only require a check and cleaning of air intake coil surface once quarterly. However, if a unit is installed in areas subjected to much oil mist and dust, the coils must be regularly cleaned by qualified Air Conditioner Service Technicians to ensure sufficient heat exchange and proper operation. Otherwise, the systems life span may be shortened.



Under normal circumstances, these outdoor units only require a check and cleaning of air intake coil surface once every 3 months. However, if a unit is installed in areas subjected to much oil mist and dust, the coils must be regularly cleaned by qualified Air Conditioner Service Technicians to ensure sufficient heat exchange and proper operation. Otherwise, the systems life span may be shortened.

CAUTION!
Do not charge OXYGEN, ACETYLENE OR OTHER FLAMMABLE and poisonous gases into the unit when performing a leakage test or an airtight test. These gases could cause severe explosion and damage if exposed to high temperature and pressure.
It is recommended that only nitrogen or refrigerant be charged when performing the leakage or airtight test.

Troubleshooting

When a malfunction of the air conditioner unit is detected, immediately switch off the main power supply before proceeding with the following troubleshooting procedures.
The following are common fault conditions and simple troubleshooting tips. If any other fault conditions which are not listed occur, contact your nearest local dealer. DO NOT attempt to troubleshoot the unit by yourself.

No	Fault conditions	Possible causes / corrective actions
1	The air conditioner unit will not resume after power failure.	• The auto restart function is not functioning. Please turn on the unit with the wireless / wired controller.
2	The compressor does not operate 3 minutes after the air conditioner unit is started.	• Protection against frequent starting. • Wait for 3 or 4 minutes for the compressor to start operating by it self.
3	The airflow is too slow or room cannot be cooled sufficiently.	• The air filter is dirty. • The doors and windows are opened. • The air suction and discharge of both indoor and outdoor units are clogged or blocked. • The regulated temperature or temperature setting is not low enough.
4	Discharge airflow has bad odor.	• Cigarettes, smoke particles, perfume and others, which might have adhered onto the coil, may cause odor. • Contact your nearest dealer.
5	Condensation on the front air grille of the indoor unit.	• This is caused by air humidity after an extended period of operation. • The set temperature is too low. Increase the temperature setting and operate the unit at high fan speed.
6	Water flowing out from the air conditioner.	• Switch off the unit and contact your nearest dealer. This might be due to tilted installation.
7	Hissing airflow sound from the air conditioner unit during operation.	• Liquid refrigerant flowing into the evaporator coil.
8	The wireless controller display is dim.	• The batteries are discharged. • The batteries are not correctly inserted. • The assembly is not good.
9	Compressor operates continuously.	• Dirty air filter. Clean the air filter. • Temperature setting too low (cooling). Use higher temperature setting. • Temperature setting too high (heating), Use lower temperature setting.
10	No cool air comes out during cooling cycle, or no hot air comes out during heating cycle.	• Temperature setting too high (cooling). Use lower temperature setting. • Temperature setting too low (heating). Use higher temperature setting.
11	On heating cycle, warm air does not come out.	• Unit is in defrost mode. Heating operation will resume after defrost cycle ends.

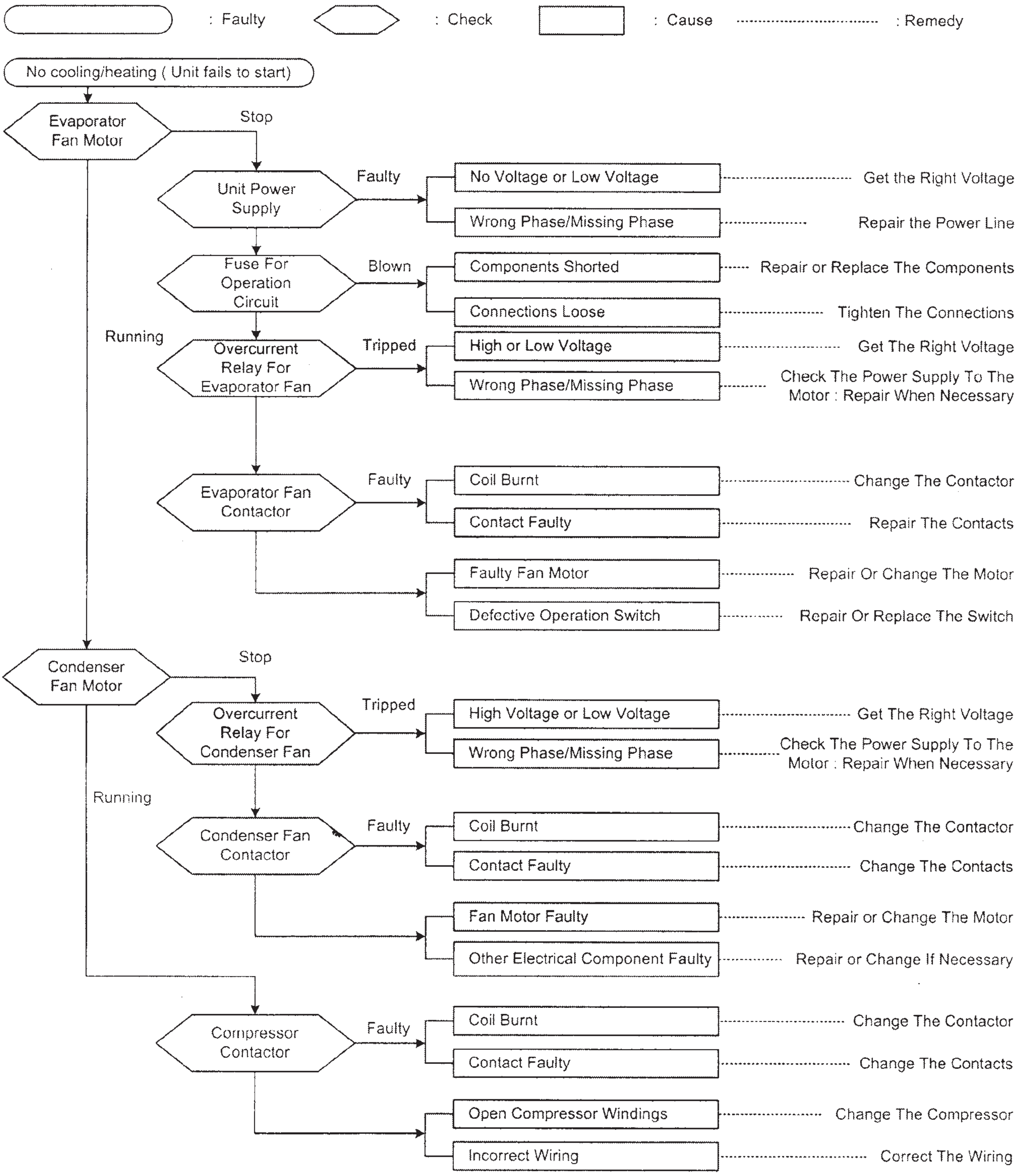
Diagnostic Guidelines

By means of pressure readings:

Data	Pressure					Probable cause
Circuit	**Too low**	**A little low**	**Normal**	**A little high**	**Too high**	
High side **Low side**					• •	1. Overcharged with refrigerant. 2. Non-condensable gases in refrigerant circuit (e.g. air) 3. Obstructed air-intake / discharge. 4. Hot air short circuiting in outdoor unit.
High side **Low side**	• 				 •	1. Poor compression / no compression (compressor defective) 2. Reversing valve leaking.
High side **Low side**	 •	• 				1. Undercharged with refrigerant. 2. Refrigerant leakage. 3. Air filter clogged / dirty (indoor unit). 4. Indoor fan locked / seized. 5. Defective defrost control, outdoor coil freeze up (heating). 6. Outdoor fan locked / seized (heating).
High side **Low side**				 •	• 	1. Outdoor fan blocked (cooling). 2. Outdoor coil dirty (cooling). 3. Indoor fan locked / seized (heating). 4. Indoor air filter clogged / dirty (heating). 5. Non-condensable gases in refrigerant circuit (e.g. air)
High side **Low side**				• 	 •	1. Air intake temperature of indoor unit too high.

By Means Of Diagnostic Flow Chart :
Generally, there are two kinds of problems, i.e. starting failure and insufficient cooling/heating. "Starting failure" is caused by electrical defect while improper application or defects in refrigerant circuit causes "Insufficient cooling / heating".

i) Diagnosis of Electric Circuit

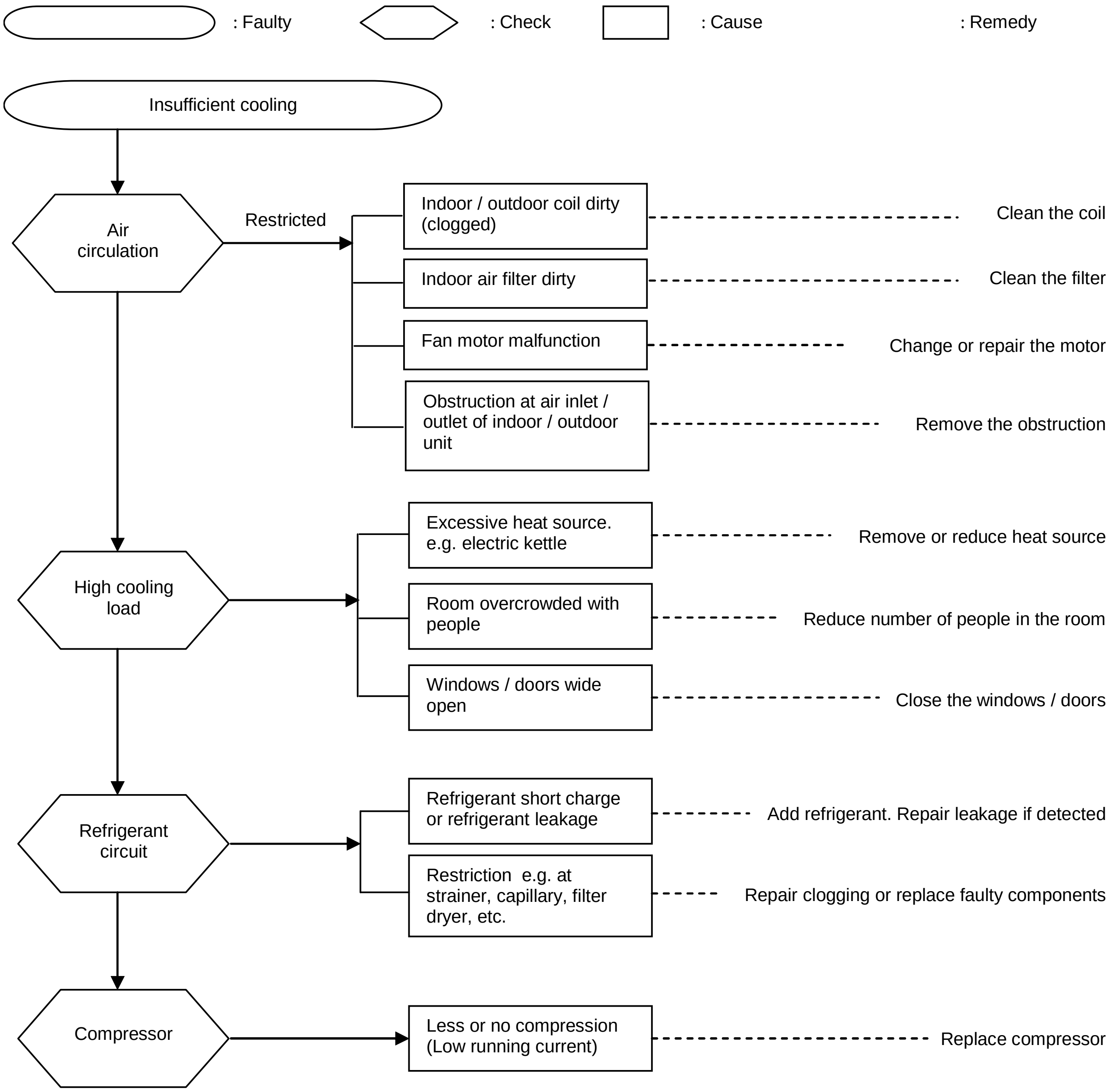


The most common causes of air conditioner failure to "start" are :

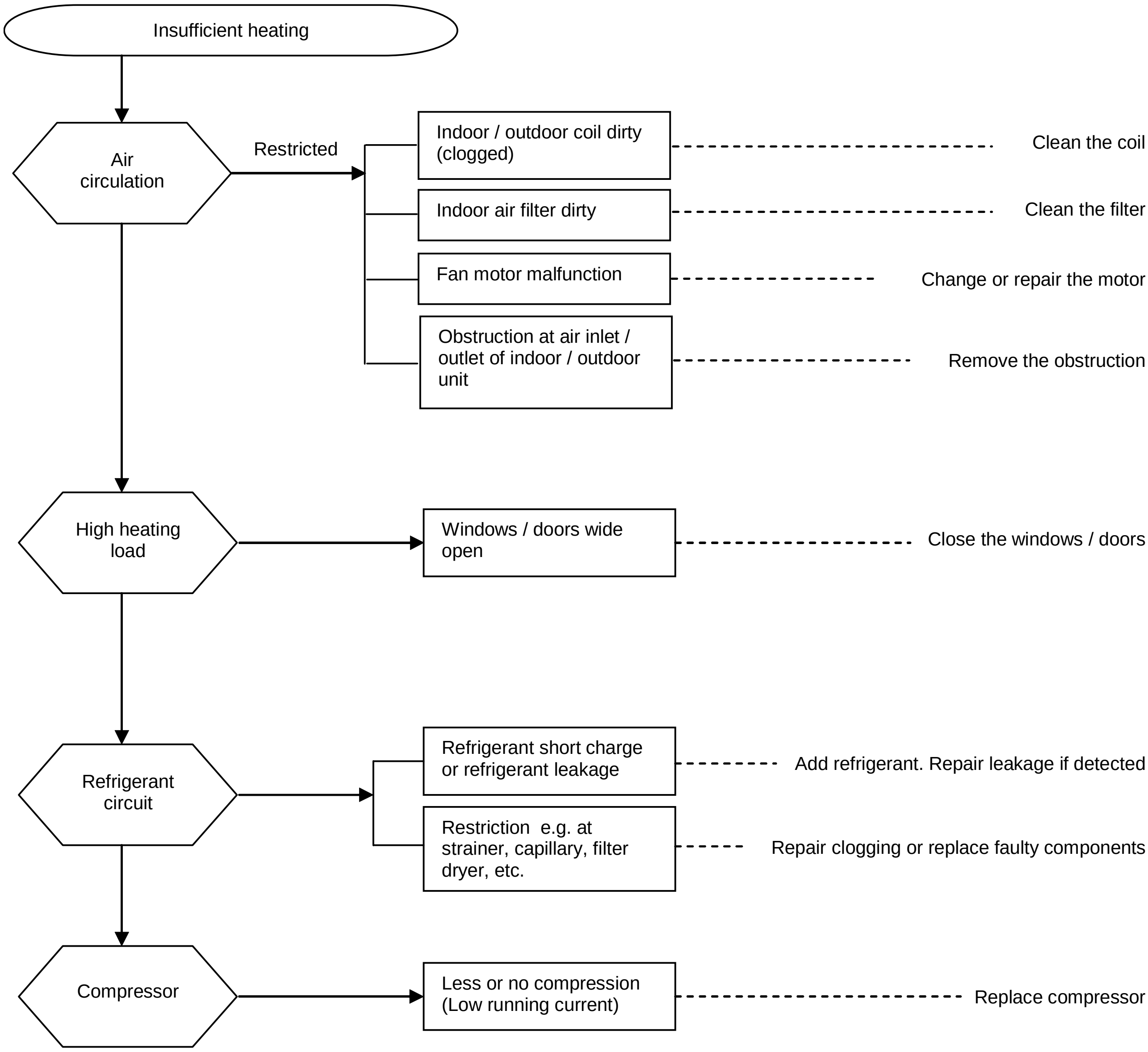
a) Voltage not within ±10% of rated voltage.
b) Power supply interrupted.
c) Improper control settings.
d) Air conditioner is disconnected from main power source.
e) Fuse blown or circuit breaker off.

ii) Diagnosis of Refrigerant Circuit / Application

There might be some causes where the unit starts running but does not perform satisfactorily, i.e. insufficient cooling. Judgement could be made by measuring temperature difference of indoor unit's intake and discharge air as well as running current.



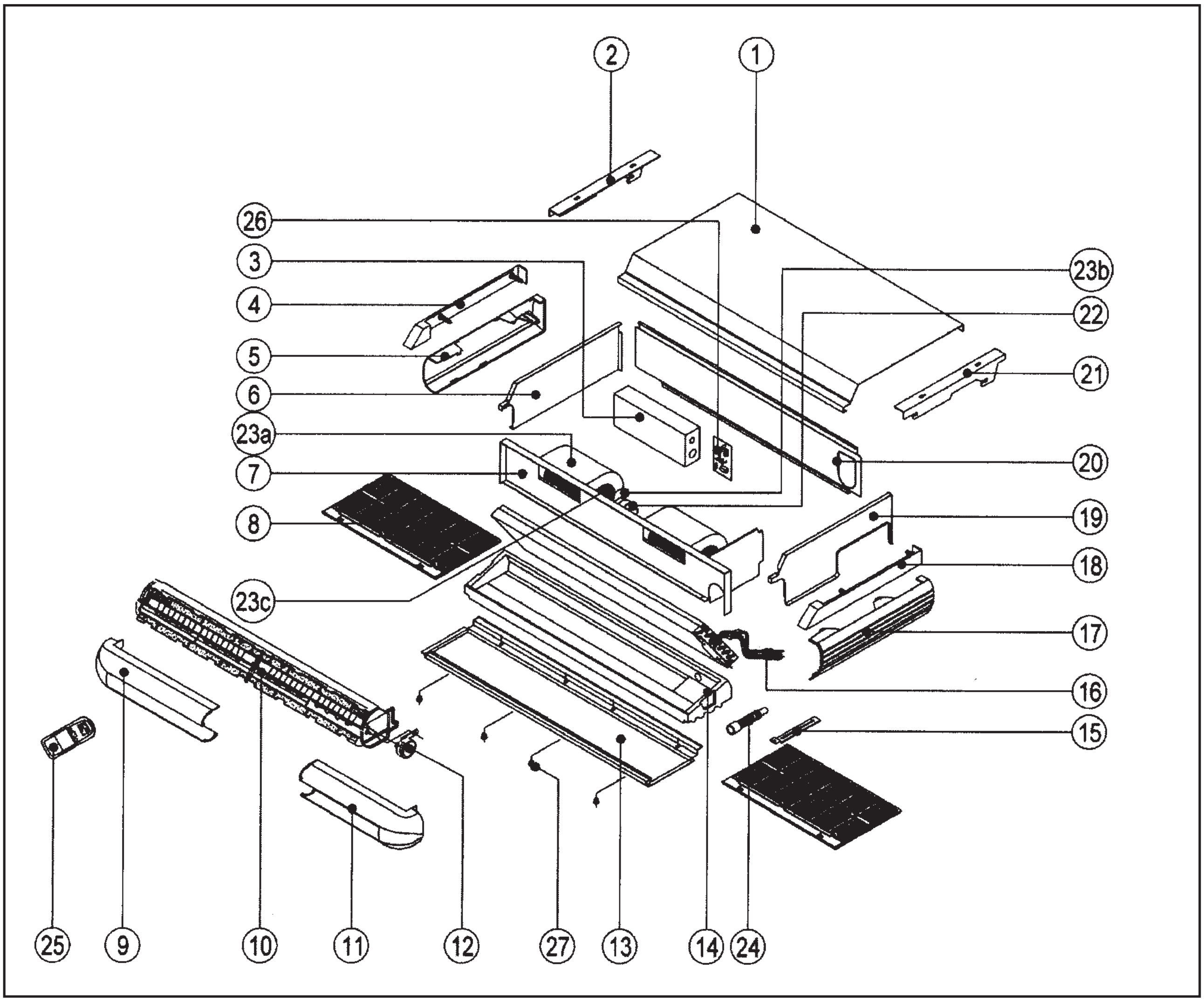
Satisfactory operation with temperature difference of air intake & discharge of indoor unit 8°C to 13°C. *
(* value is for reference only)



Satisfactory operation with temperature difference of air intake & discharge of indoor unit 14°C to 20°C. *
(* value is for reference only)

Exploded View and Parts List

Model : MCM 020 / 025 D/DR

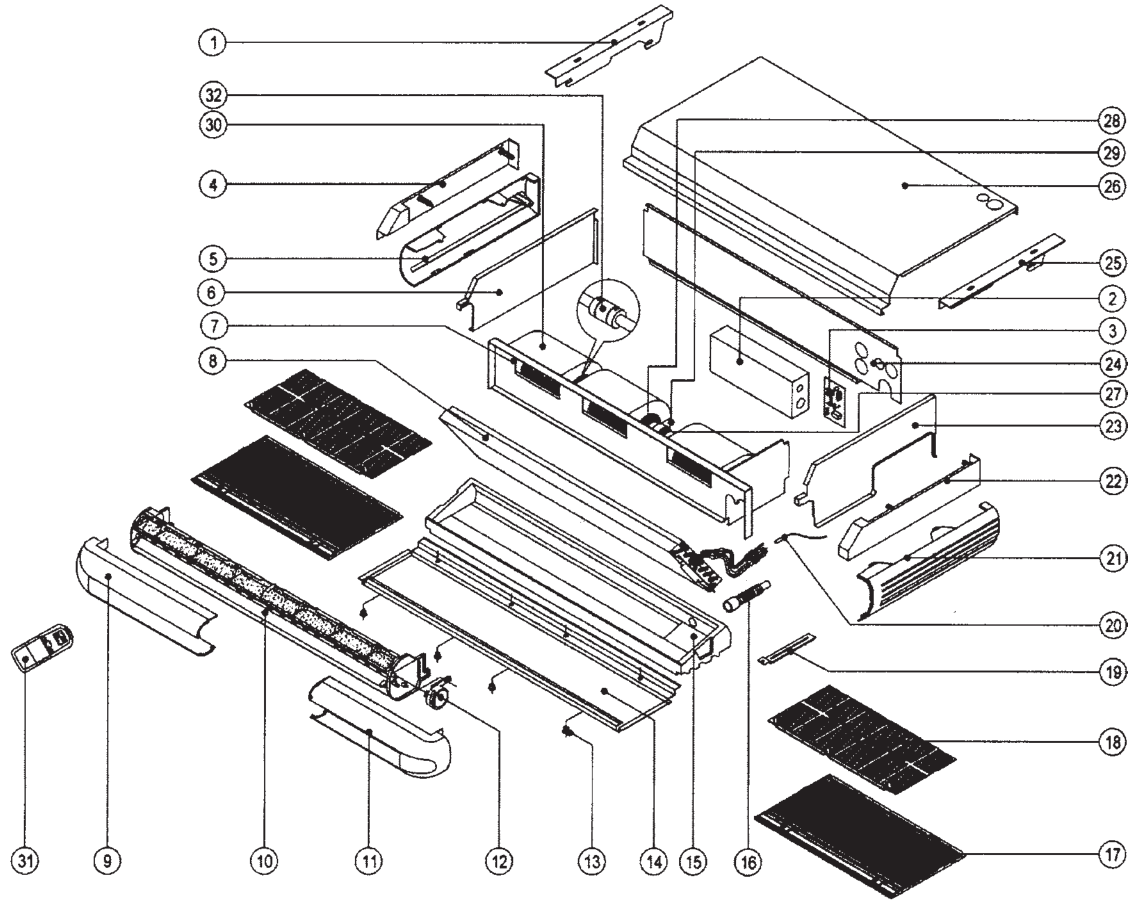


No	Description	Part No.
1	Top Panel	R01014022475
2	Hanger Bracket - Left	R01014032844
3	Control Box	R01014022491
4	Close Up, Side Panel (Left)	R12013022636
5	Side Frame Assy., Left	R12013022501
6	Coil Holder Assy. - Left	R01014022480
7	Fan Deck	R50013026114
8	Air Intake Grille Assy.	R50124026140
9	Front Frame - Left	R12013022443
10	Louver Assy.	R50129003072
11	Front Frame - Right	R12013022444
12	Air Swing Motor Assy.	R50034026127
13	Bottom Panel	R01015033342
14	Drain Pan Assy.	R50124023274
15	Centre Support Bracket	R01014022484
16	Coil Assy.	
	MCM 020D/DR	R50024025829
	MCM 025D/DR	R50024025828

No	Description	Part No.
17	Side Frame Assy., Right	R12013022502
18	Close Up, Side Panel (Right)	R12013022637
19	Coil Holder Assy. - Right	R01014022481
20	Back Panel	R01013022492
21	Hanger Bracket - Right	R01014032843
22	Fan Motor	
	MCM 020D/DR	R03039012873
	MCM 025D/DR	R03039012875
23a	Blower Housing, Top	R03094026108
23b	Blower Housing, Bottom	R03094021607
23c	Blower Wheel	R03024004754
24	Drain Hose Assy.	R50124025113
25	G7 Handset (Cooling Only)	R04084047723
	G7 Handset (Heat Pump)	R04084047726
26	L2 Control Module	
	MCM 020/025D	R04089027278
	MCM 020/025DR	R04089027276

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MCM 030 D/DR

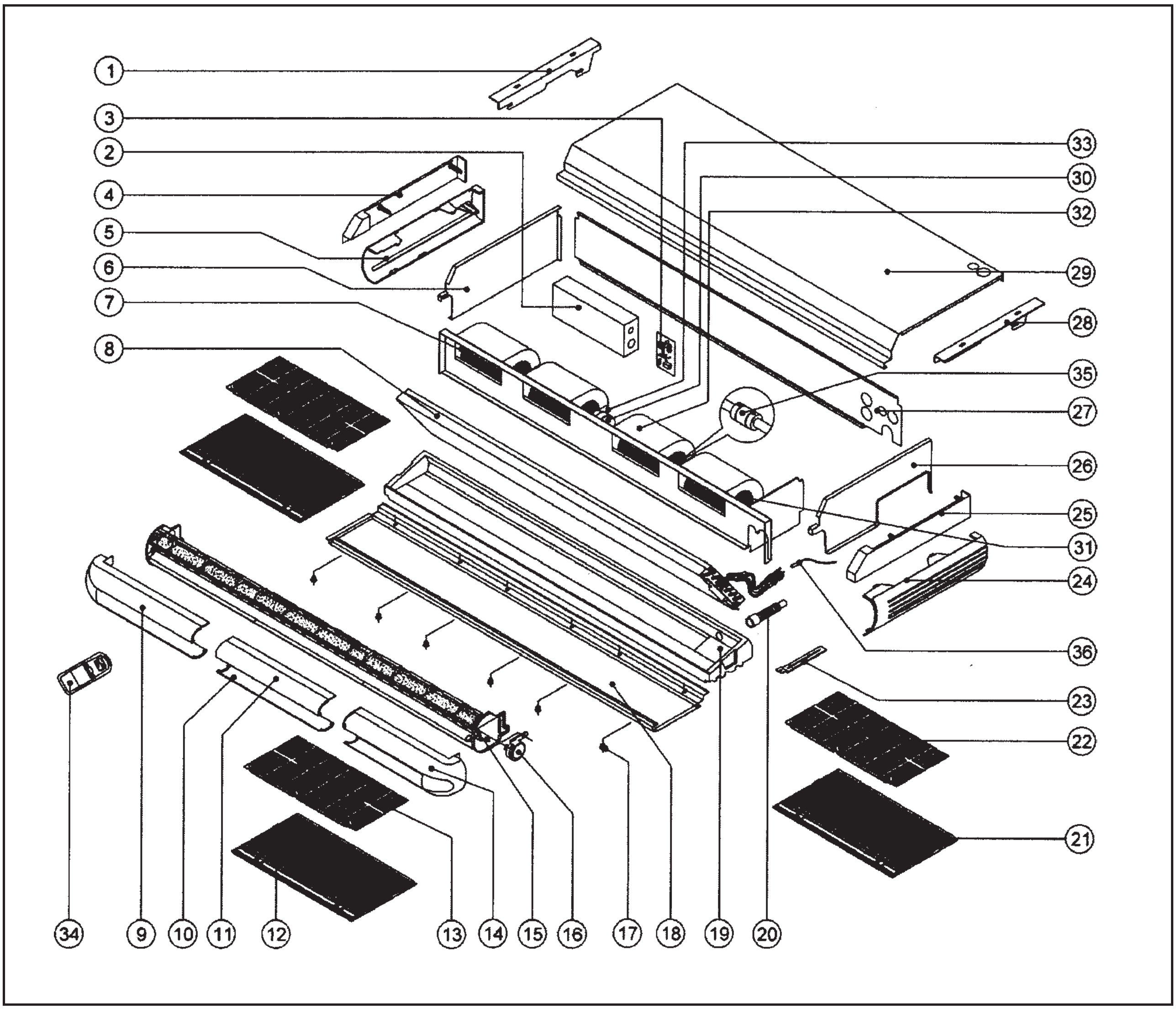


No	Description	Part No.
1	Bracket Hanger, Left	R01014032844
2	Control Box Cover	R01014022491
3	L2 Control Module MCM 030D MCM 030DR	 R04089027278 R04089027276
4	Close Up, Left	R12013024883
5	Frame, Side Left	R12013022501
6	Assy., Coil Holder Left	R50064028307
7	Fan Deck	R50014028312
8	Coil Assy. MCM 030D MCM 030DR	 R50024031216 R50023034879
9	Frame, Front Left	R12013022443
10	Assy., Louver	R50129003072
11	Frame, Front Right	R12013022444
12	Air Swing Motor Assy.	R50034026127
13	Air Intake Grille Frame Holder Assy.	R12014022098
14	Bottom Panel	R01015033342
15	Drain Pan Assy.	R50124023274

No	Description	Part No.
16	Drain Hose Assy.	R50124025113
17	Grille, Air Intake	R50124032385
18	Assy, Filter Frame Left/Right	R50124022130
19	Bracket Centre Support	R01014022484
20	Thermister	R04094030528
21	Frame, Side Right	R12013022502
22	Close Up, Right	R12013024884
23	Assy., Coil Holder Right	R50064028310
24	Back Panel	R01013024870
25	Bracket Hanger, Right	R01014032843
26	Top Panel	R50014028305
27	Fan Motor	R03039012877
28	Blower Wheel	R03024004754
29	Housing Blower, Bottom	R03090030300
30	Housing Blower, Top	R03094026108
31	G7 Handset (Cooling Only) G7 Handset (Heat Pump)	R04084047723 R04084047726
32	Rubber Coupling	R11054025589

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MCM / M5CM 040 / 050 D/DR

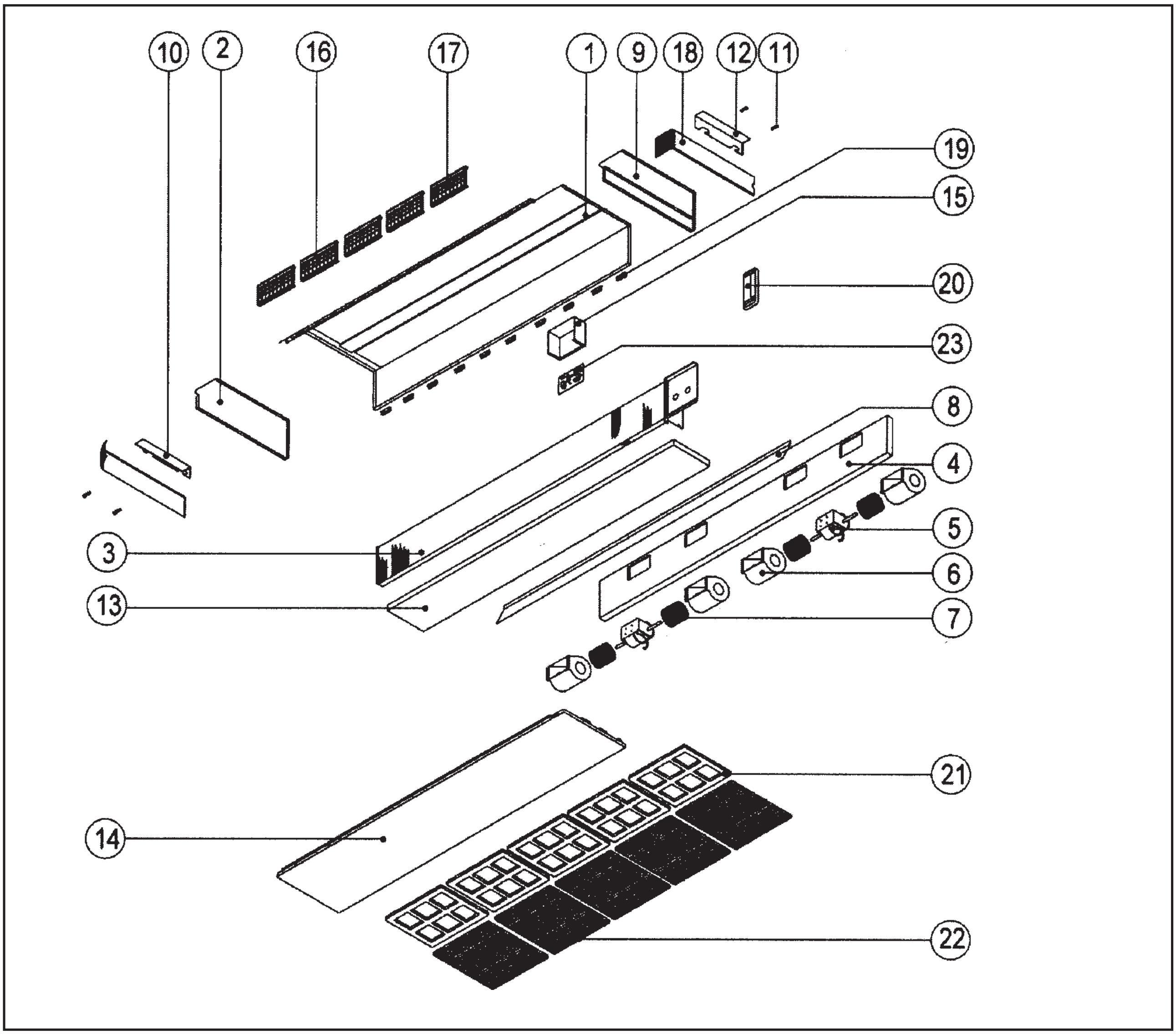


No	Description	Part No.
1	Bracket Hanger, Left	R01014032844
2	Control Box Cover	R01014022491
3	L2 Control Module	
	MCM 040/050D	R04089027279
	MCM 040/050DR	R04089027277
4	Close Up, Left	R12013024883
5	Frame, Side Left	R12013022501
6	Assy., Coil Holder Left	R50064028307
7	Fan Deck	R50013030299
8	Coil Assy.	
	MCM 040D	R50024064347
	MCM 040DR	R50024041343
	M5CM 040D/DR	R50024084864
	MCM 050D	R50024064348
	MCM 050DR	R50024041121
	M5CM 050D/DR	R50024085765
9	Frame, Front Left	R12013022443
10	Frame Bottom Centre	R12013022443
11	Front Top Centre	R12014028976
12	Air Intake Grille Frame Center Assy.	R50124029066
13	Air Intake Grille Frame Center Assy.	R50124029066
14	Frame, Front Right	R12013022444
15	Assy., Louver Bottom	R50129003073
16	Air Swing Motor Assy.	R50034026127

No	Description	Part No.
17	Air Intake Grille Frame Holder Assy.	R50124026115
18	Bottom Panel	R01015024889
19	Drain Pan Assy.	R50124029045
20	Drain Hose Assy.	R50124025113
21	Air intake Grille Assy.	R50124026140
22	Air intake Grille Assy.	R50124026140
23	Bracket, Centre Support	R01014022484
24	Frame, Side Right	R12013022502
25	Close Up, Right	R12013024884
26	Assy., Coil Holder Right	R50064028310
27	Back Panel	R01013030263
28	Bracket Hanger, Right	R01014032843
29	Top Panel	R50014030260
30	Fan Motor	
	MCM 040D/DR	R03039013481
	MCM 050D/DR	R03039012879
31	Blower Wheel	R03024004754
32	Housing Blower, Bottom	R03090030300
33	Housing Blower, Top	R03094026108
34	G7 Handset (Cooling Only)	R04084047723
	G7 Handset (Heat Pump)	R04084047726
35	Rubber Coupling	R11054025589
36	Thermister	R04094030528

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MCM / M5CM 062 C/CR



No	Description	Part No.
1	Top Back Panel	R50015039175
2	Coil Holder Left	R01014037090
3	Coil Assy.	
	MCM 062C	R50024039514
	MCM 062CR	R50024043437
	M5CM 062C/CR	R50024085767
4	Fan Deck	R50014041231
5	Fan Motor	R03039004898
6	Blower Housing & Wheel - Right	R50039005355
7	Blower Housing & Wheel - Left	R50039005356
8	Bracket, Fan Deck	R01014002460
9	Coil Holder Right	R01014037091
10	Bracket Hanger Left	R01014002497
11	-	-
12	Bracket Hanger Right	R01019001246
13	Drain Pan	R50019010139
14	Bottom Panel	R01015017998

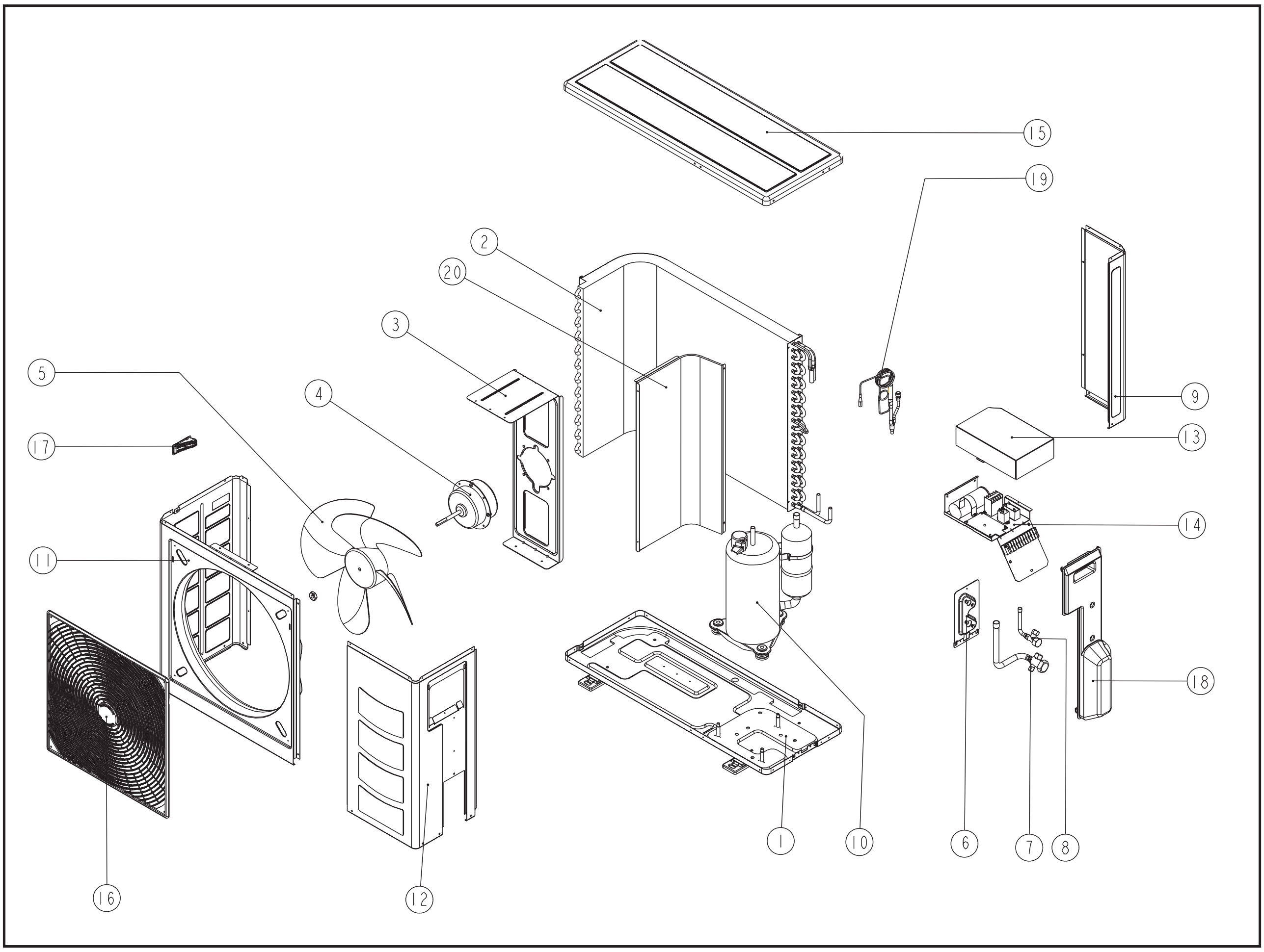
No	Description	Part No.
15	Terminal Box	R01014021961
16	Front Frame	R12014053120
17	Front Frame (With LED Indicators)	R12014053119
18	Side Panel	R50124054669
19	Hook	R12014002437
20	G7 Handset (Cooling Only)	R04084047723
	G7 Handset (Heat Pump)	R04084047726
21	Air Intake Grille C/W Filter	R50129001080
22	Air Intake Grille C/W Filter	R50129001234
23	L2 Control Module	
	MCM 062C	R04089027300
	MCM 062CR	R04089027301

Parts Not in Diagram

	Assy., IR/LED	
	MCM 062C	R50049011842
	MCM 062CR	R50049011805

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MLC 018 / 020C



No	Description	Part No
1	Assy. Base Pan	R50014078281
2	Assy. Outdoor Coil	
	MLC 018C	R50024089940
	MLC 020C	A50024084570
3	Motor Bracket	R01014070601
4	Fan Motor	R03039024539
5	Fan Blade	R03019023393
6	Valve Bracket	A50014072861
7	Assy. Flare Valve 3 Ways 5/8"	R50054072863
8	Assy. Flare Valve 2 Ways 1/4"	R50059022156
9	Back Panel, Right	R01014070599
10	Compressor	A04019027266
11	Front Panel, Left	R01014070597
12	Service Panel	R01014070598

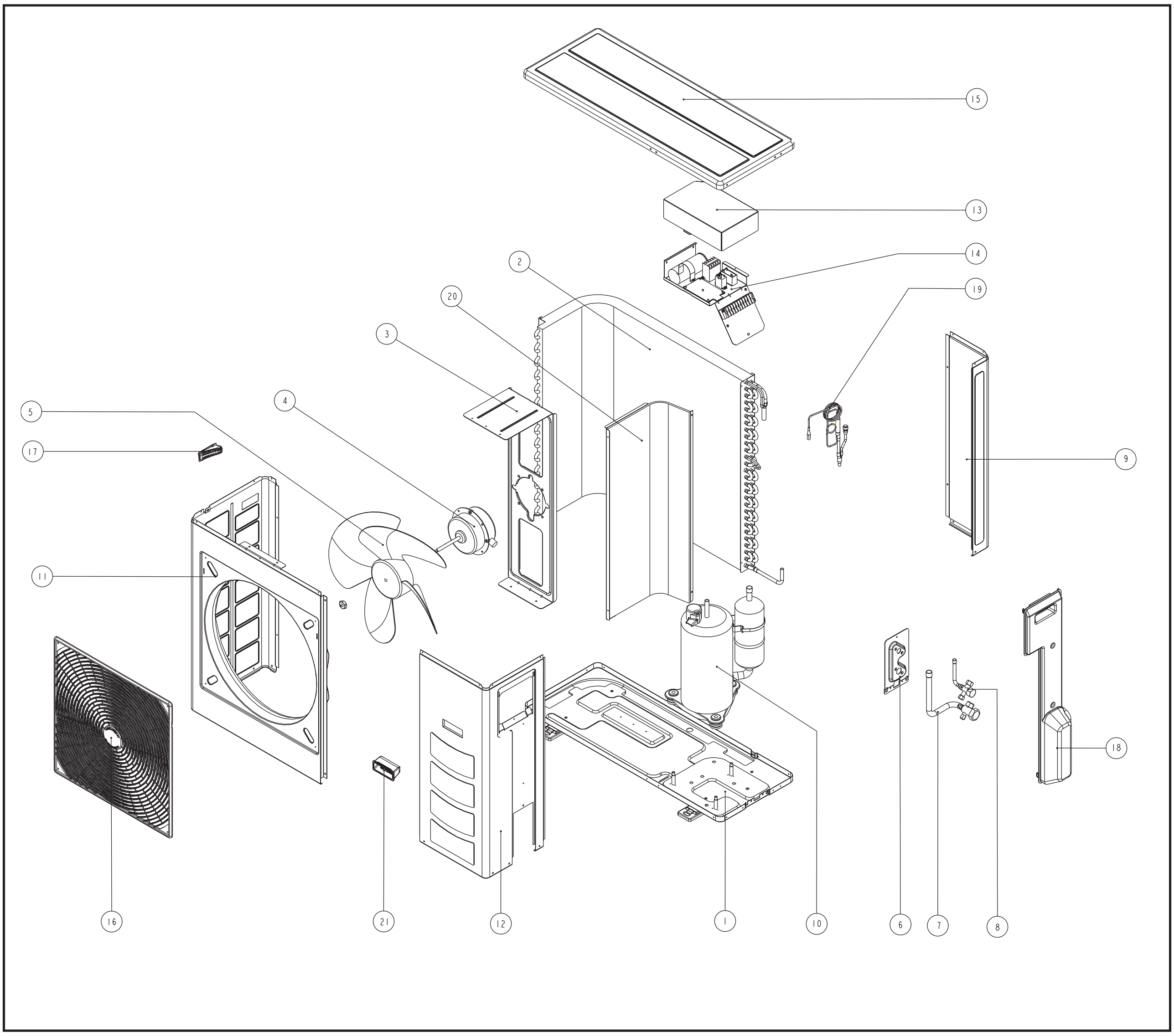
No	Description	Part No
13	Terminal Cover Panel	R01014070838
14	Assy. Control Panel	R50014072877
15	Top Panel	R01014070596
16	Assy. Front Grille	R50124072880
17	Plastic Handle	R12014057948
18	Assy. Valve Cover	R50124072885
19	Assy. Cap Tube	
	MLC 018C	R50024089926
	MLC 020C	A50024087066
20	Partition	R01014070603

Parts Not in Diagram

	Capacitor, Fan Motor	R04029026759
	Capacitor, Compressor	R04029026782

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MLC 025 / 028C



No	Description	Part No
1	Assy. Base Pan	R50014073884
2	Assy. Outdoor Coil	
	MLC 025C	R50024089206
	MLC 028C	A50024070959
3	Motor Bracket	R01014070948
4	Fan Motor	
	MLC 025C	R03039028207
	MLC 028C	R03039024538
5	Fan Blade	R03019023393
6	Valve Bracket	A50014073890
7	Assy. Flare Valve 3 Ways 5/8"	R50054072863
8	Assy. Flare Valve 3 Ways 3/8"	R50059022577
9	Back Panel, Right	R01014070950
10	Compressor	
	MLC 025C	A04019027570
	MLC 028C	R04019012828
11	Front Panel, Left	R01014070947
12	Service Panel	R01014070949

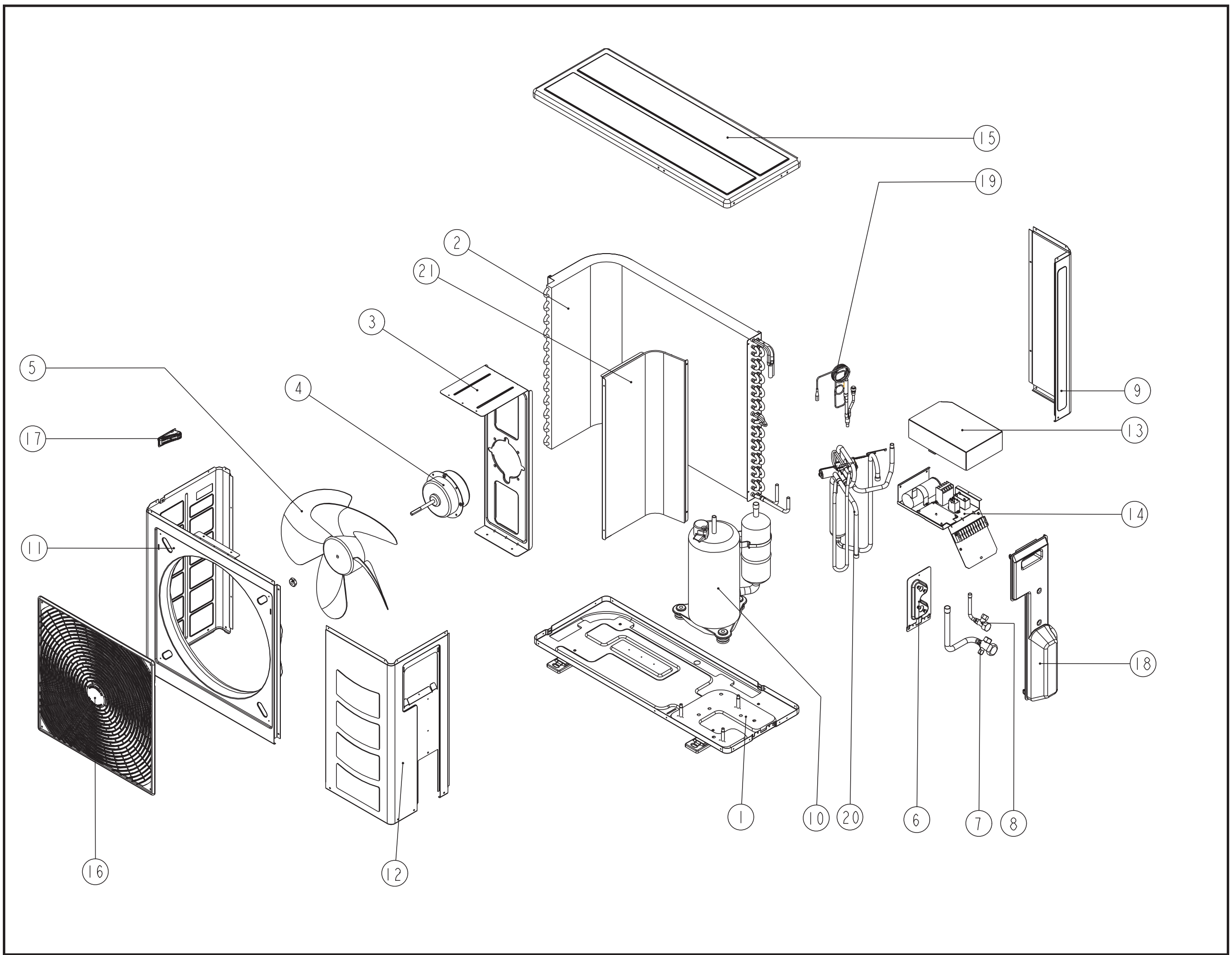
No	Description	Part No
13	Terminal Cover Panel	A01014070838
14	Assy. Control Panel	
	MLC 025C	R50044086076
	MLC 028C	R50044086137
15	Top Panel	R01014070596
16	Assy. Front Grille	R50124072880
17	Plastic Handle, Side	R12014057948
18	Assy. Valve Cover	R50124073905
19	Assy. Cap Tube	
	MLC 025C	R50024090095
20	Partition	R01014070951
21	Plastic Handle, Front	R12014070955

Parts Not in Diagram

	Capacitor, Fan Motor	
	MLC 025C	R04029026759
	MLC 028C	R04029026966
	Capacitor, Compressor	R04029026779

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MLC 020CR

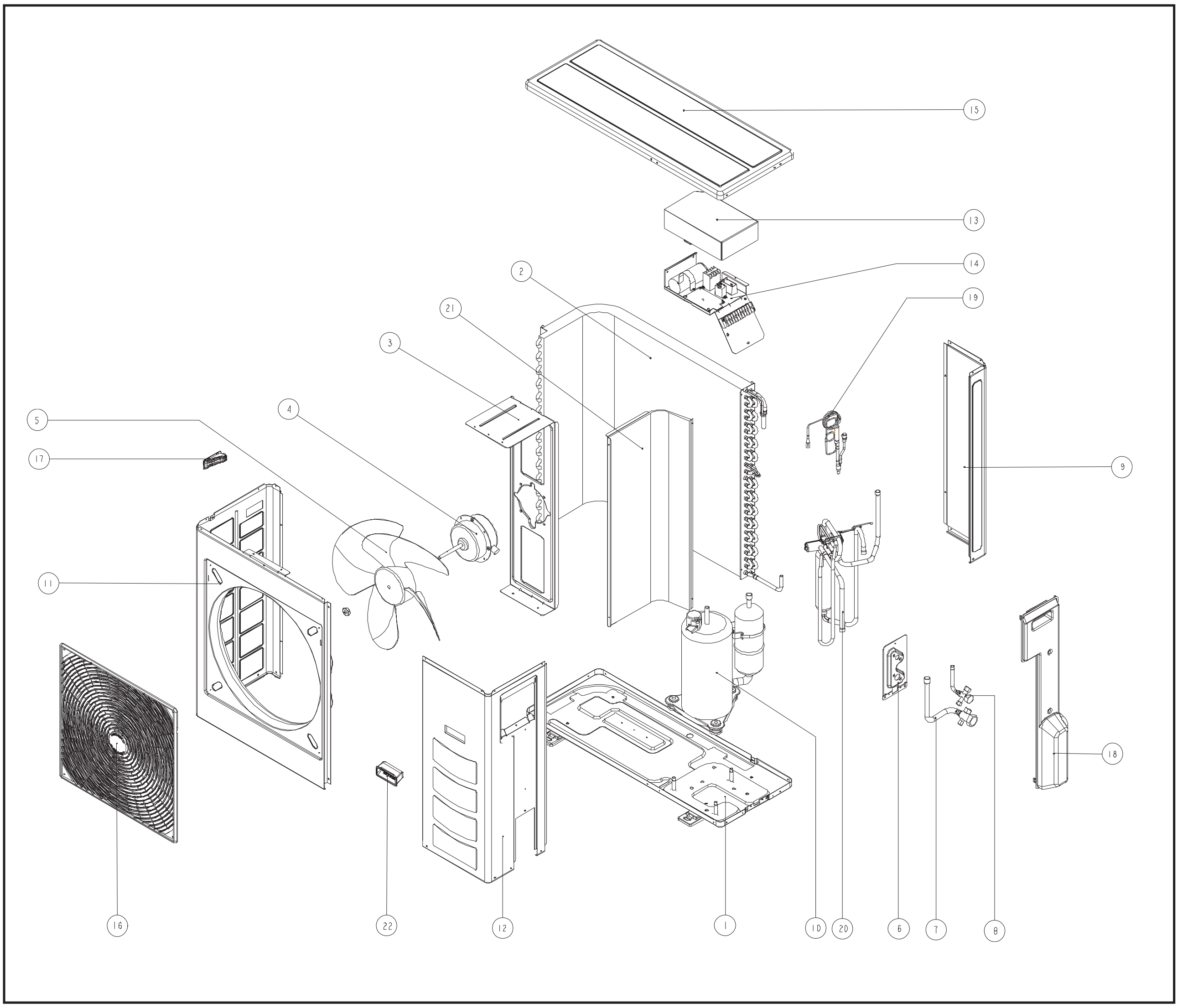


No	Description	Part No
1	Assy. Base Pan	R50014078281
2	Assy. Outdoor Coil	
	MLC 018CR	R50024090296
	MLC 020CR	R50024075143
3	Motor Bracket	R01014070601
4	Fan Motor	R03039024539
5	Fan Blade	R03019023393
6	Valve Bracket	A50014072861
7	Assy. Flare Valve 3 Ways 5/8"	R50054072863
8	Assy. Flare Valve 2 Ways 1/4"	R50059022156
9	Back Panel, Right	R01014070599
10	Compressor	A04019027266
11	Front Panel, Left	R01014070597
12	Service Panel	R01014070598

No	Description	Part No
13	Terminal Cover Panel	R01014070838
14	Assy. Control Panel	R50014072877
15	Top Panel	R01014070596
16	Assy. Front Grille	R50124072880
17	Plastic Handle	R12014057948
18	Assy. Valve Cover	R50124072885
19	Assy. Cap Tube	
	MLC 018CR	R50024089931
	MLC 020CR	R50024087058
20	Assy. 4 Way Valve	R50054077222
21	Partition	R01014070603
Parts Not in Diagram		
	Capacitor, Fan Motor	R04029026759
	Capacitor, Compressor	R04029026782

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MLC 025 / 028CR



No	Description	Part No
1	Assy. Base Pan	R50014073884
2	Assy. Outdoor Coil	
	MLC 025CR	R50024088731
	MLC 028CR	A50024082133
3	Motor Bracket	R01014070948
4	Fan Motor	
	MLC 025CR	R03039028207
	MLC 028CR	R03039024538
5	Fan Blade	R03019023393
6	Valve Bracket	A50014073890
7	Assy. Flare Valve 3 Ways 5/8"	R50054072863
8	ALC 25/28CR	R50059022577
9	Back Panel, Right	R01014070950
10	Compressor	
	MLC 025CR	A04019027570
	MLC 028CR	R04019012828
11	Front Panel, Left	R01014070947
12	Service Panel	R01014070949
13	Terminal Cover Panel	R01014070838

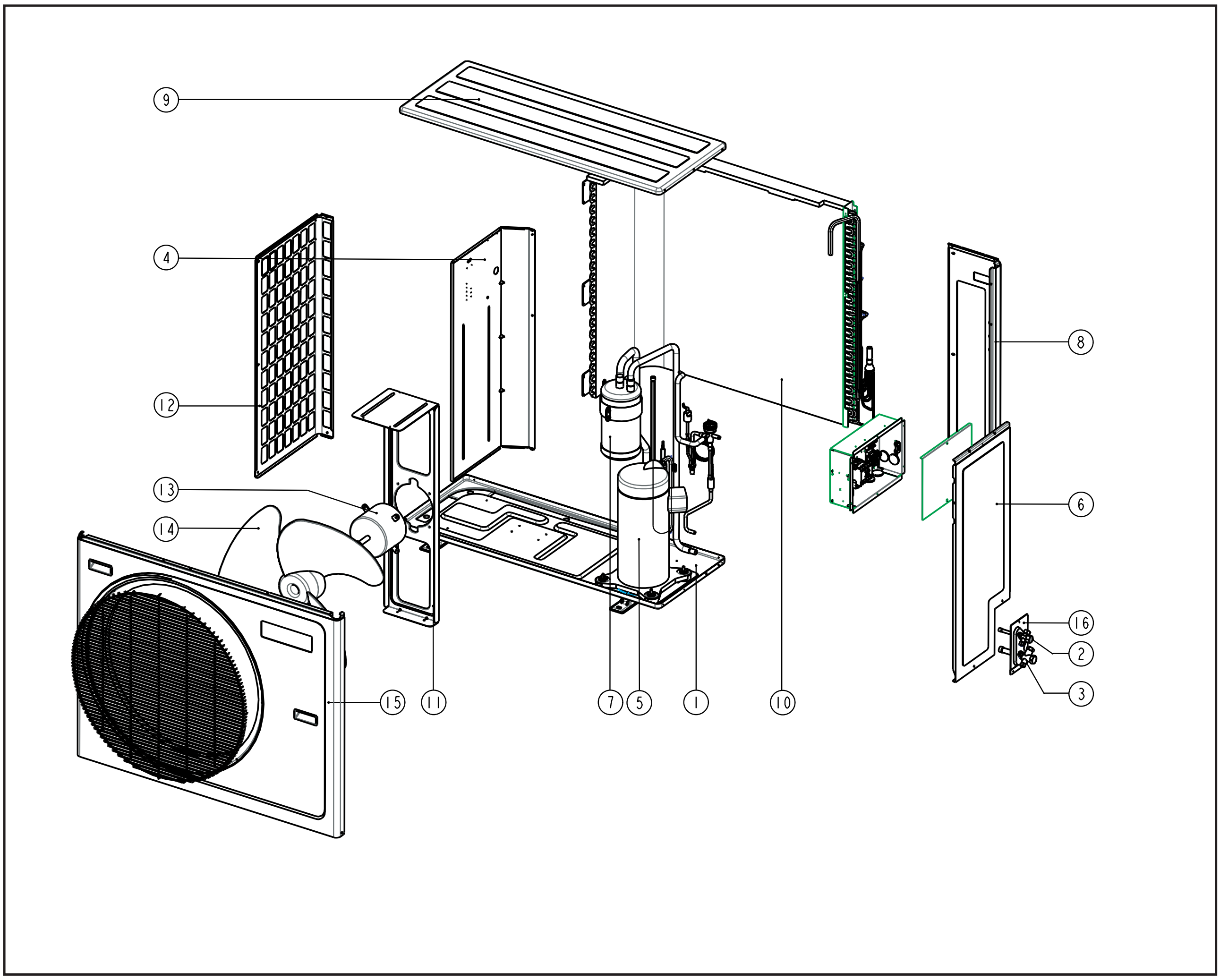
No	Description	Part No
14	Assy. Control Panel	
	MLC 025CR	R50044086136
	MLC 028CR	R50044086139
15	Top Panel	R01014070596
16	Assy. Front Grille	R50124072880
17	Plastic Handle, Side	R12014057948
18	Assy. Valve Cover	R50124073905
19	Assy.Cap Tube	
	MLC 025CR	R50024088789
	MLC 028CR	A50024080186
20	Assy. 4 Way Valve	R50054077222
21	Partition	R01014070951
22	Plastic Handle, Front	R12014070955

Parts Not in Diagram

	Capacitor, Fan Motor	
	MLC 025CR	R04029026759
	MLC 028CR	R04029026966
	Capacitor, Compressor	R04029026779

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model: MLC 030 / 040C/CR



No	Description	Part No
1	Assy. Base Pan	R50014053238
2	Assy. Flare Valve 3/8"	
	MLC 030/040C/CR	R50059000221
3	Assy. Flare Valve 5/8"	
	MLC 030C/CR	R50059000071
	Assy. Flare Valve 3/4"	
	MLC 040C/CR	R50059003794
4	Panel, Partition	R50014053277
5	Compressor	
	MLC 030C/CR	
	220-240V/1PH/50Hz	R50049013221
	380-415V/3PH/50Hz	R50049019889
	MLC 040C/CR	
	220-240V/1PH/50Hz	R50049018853
	380-415V/3PH/50Hz	R50049013222
6	Service Panel	R01010029898
7	Accumulator	
	MLC 030C/CR	R02119025988
	MLC 040C/CR	R02119002010
8	Back Panel, Right	R01014053233
9	Top Panel	R01011029900
10	Assy. Coil	
	MLC 030C	A50024041851
	MLC 030CR	A50024035282
	MLC 040C	A50024041850
	MLC 040CR	A50024035281

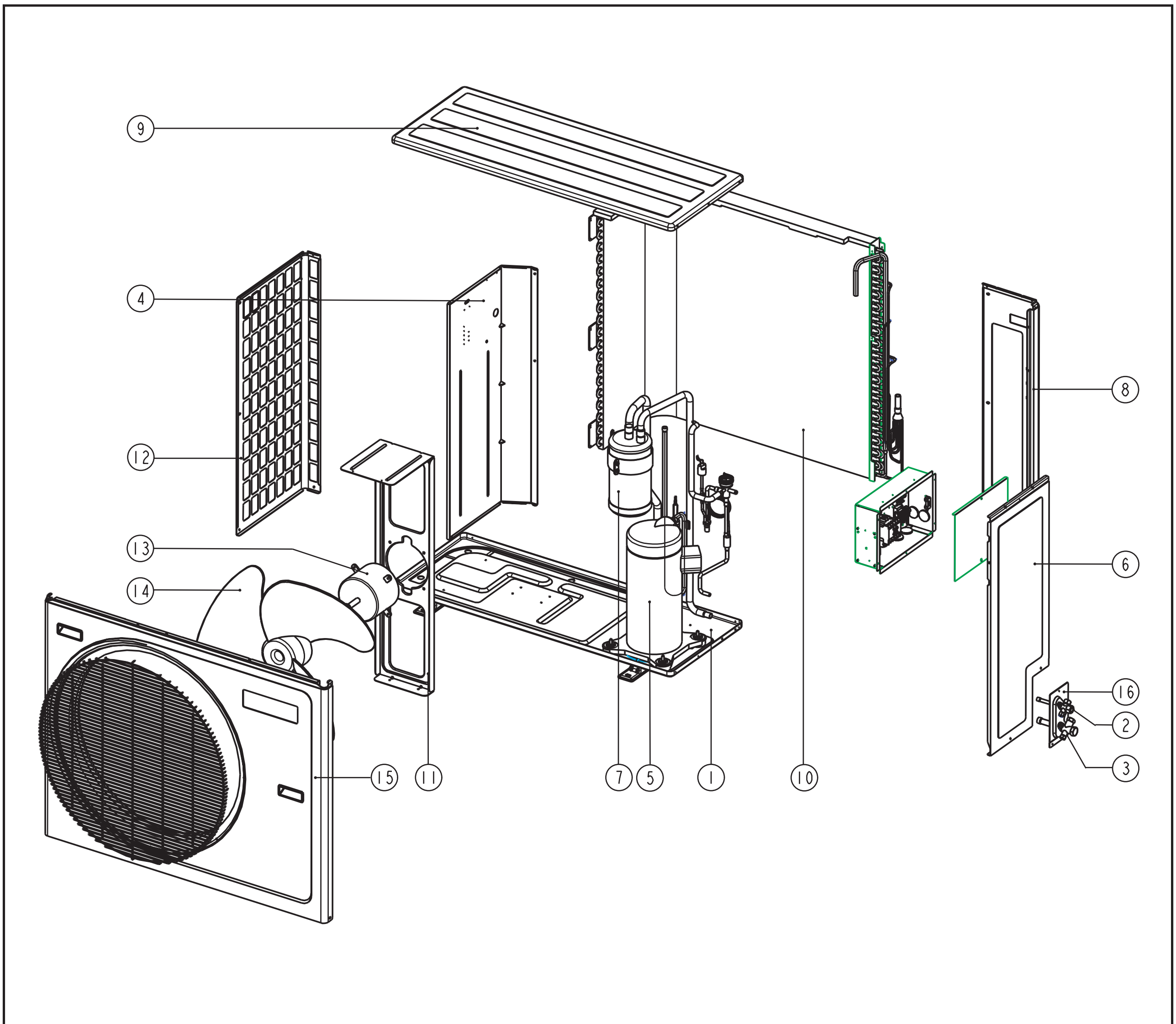
No	Description	Part No
11	Bracket, Fan Motor	R01014053232
12	Side Panel, Left	R01010029899
13	Fan Motor	R03039004046
14	Fan Blade	R03013028160
15	Assy. Front Panel	R50014053236
16	Plate, Flare Vlave	R01013034235

Parts Not in Diagram

	Phase Sequencer	R04089017029
	High Pressure Switch	R04109015136
	Low Pressure Switch	R04109015125
	Assy. 4 Way Valve	
	MLC 030CR	R05029001991
	MLC 040CR	R05019000863
	Capacitor, Fan Motor	R04029026761
	Capacitor, Compressor	
	MLC 030C/CR	R04029026779
	MLC 040C/CR	R04029026782
	TXV	R05019020252
	Contactor	R04039018866

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model: M5LC 035/040C/CR

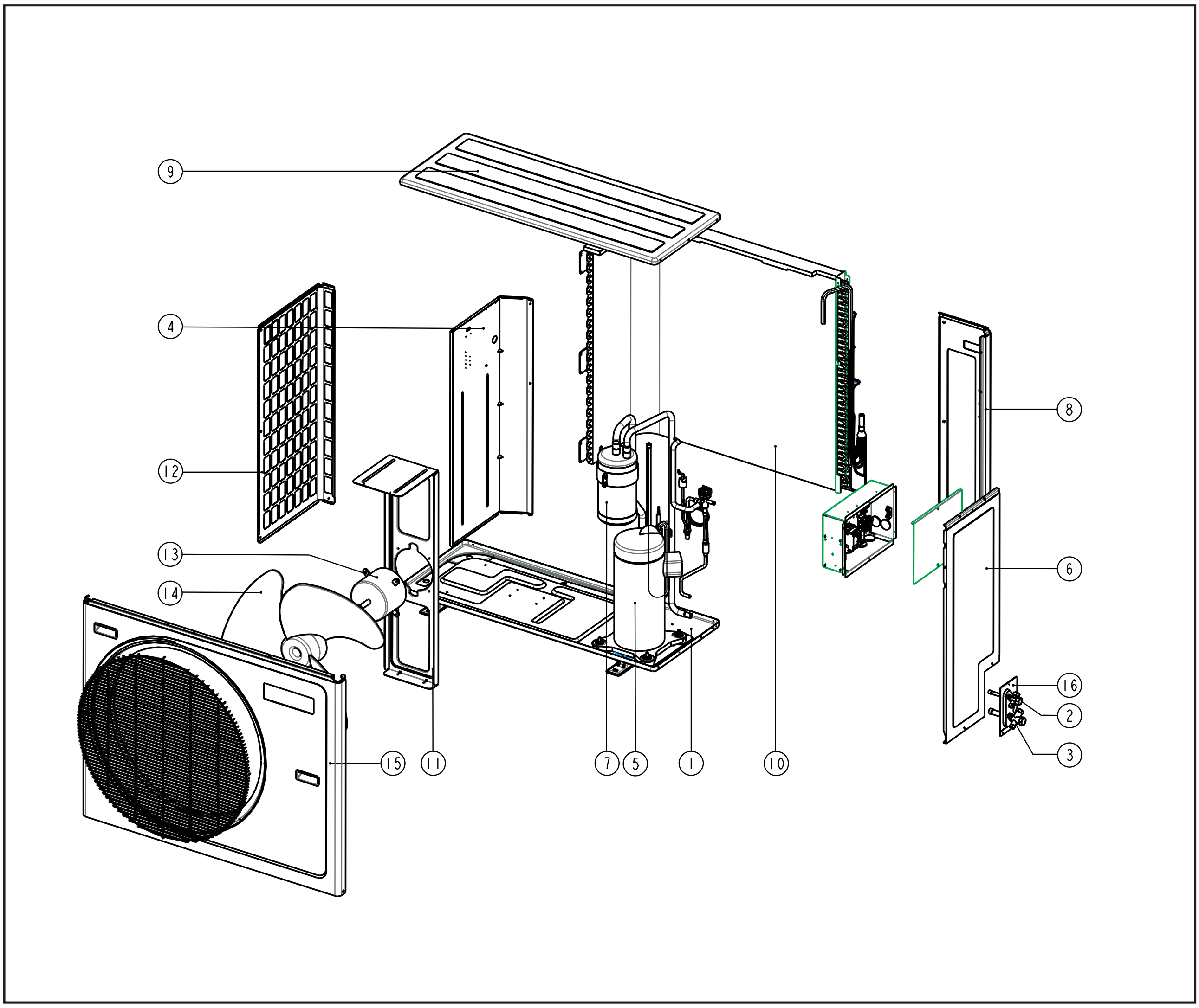


No	Description	Part No
1	Assy. Base Pan	R50014053238
2	Assy. Flare Valve 3/8"	R50059017536
3	Assy. Flare Valve 5/8"	R50059020805
4	Panel, Partition	R50014053277
5	Compressor	
	M5LC 035C/CR	
	220-240V/1PH/50Hz	R50049025547
	380-415V/3PH/50Hz	R50049025336
	M5LC 040C/CR	
	220-240V/1PH/50Hz	R50049028527
	380-415V/3PH/50Hz	R50049025380
6	Service Panel	R01010029898
7	Accumulator	R02119024262
8	Back Panel, Right	R01014053233
9	Top Panel	R01011029900
10	Assy. Coil	
	M5LC 035C/CR	R50024082878
	M5LC 040C/CR	R50024076551
11	Bracket, Fan Motor	R01014053232
12	Side Panel, Left	R01010029899

No	Description	Part No
13	Fan Motor	R03039004046
14	Fan Blade	R03013028160
15	Assy. Front Panel	R50014053236
16	Plate, Flare Vlave	R01013034235
Parts Not in Diagram		
	Phase Sequencer	R04089017029
	High Pressure Switch	R04104061879
	Low Pressure Switch	R04109015400
	Assy. 4 Way Valve	R05019019861
	Capacitor, Fan Motor	R04029026761
	Capacitor, Compressor	
	M5LC 035C/CR	R04029026782
	M5LC 040C/CR	R04029026777
	Assy. Cap. Tube	
	M5LC 035C	R50024095509
	M5LC 035CR	R50024095660
	M5LC 040C	R50024099890
	M5LC 040CR	R50024095118
	Contactor	R04039018866

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : MLC 050 / 061CR



No	Description	Part No
1	Assy. Base Pan	R50014053238
2	MLC 050C/CR	
	Assy. Flare Valve 3/8"	R50059000221
	MLC 061C/CR	
	Assy. Flare Valve 1/2"	R50059000070
3	Assy. Flare Valve 3/4"	R50059003794
4	Panel, Partition	
	MLC 050C/CR	R50014053277
	MLC 061C/CR	R50014051773
5	Compressor	
	MLC 050C/CR	R50049013223
	MLC 061C/CR	R50049004675
6	Service Panel	R01010029898
7	Accumulator	R02119002010
8	Back Panel, Right	R01014053233
9	Top Panel	R01011029900
10	Assy. Coil	
	MLC 050C	A50024041849
	MLC 050CR	A50024035281
	MLC 061C	A50024051761
	MLC 061CR	A50024052569

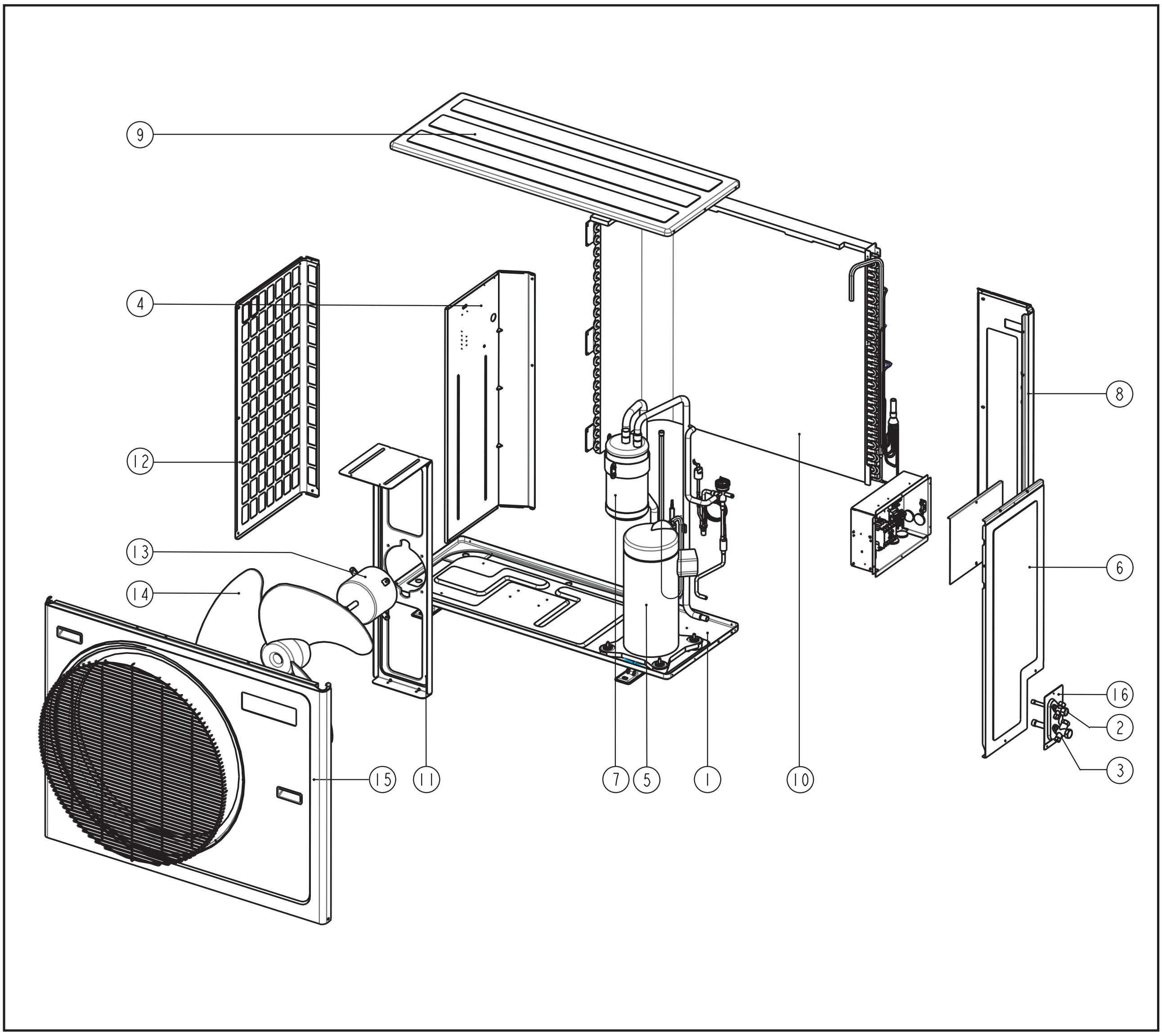
No	Description	Part No
11	Bracket, Fan Motor	
	MLC 050C/CR	R01014053232
	MLC 061C/CR	R01014051775
12	Side Panel, Left	R01010029899
13	Fan Motor	
	MLC 050C/CR	R03039004046
	MLC 061C/CR	R03039016103
14	Fan Blade	R03013028160
15	Assy. Front Panel	
	MLC 050C/CR	R50014053236
	MLC 061C/CR	R01014051758
16	Plate, Flare Vlave	R01013029901

Parts Not in Diagram

	Description	Part No
	Phase Sequencer	R04089017029
	High Pressure Switch	R04109015136
	Low Pressure Switch	R04109015125
	Assy. 4 Way Valve	R05019000863
	Capacitor, Fan Motor	
	MLC 050C/CR	R04029026761
	MLC 061C/CR	R04029026767
	TXV	
	MLC 050CR	R05019002020
	Contactor	R04039018866

1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE

Model : M5LC 050/061C/CR



No	Description	Part No
1	Assy. Base Pan	R50014053238
2	Assy. Flare Valve 3/8"	R50059017536
3	M5LC 050C/CR	
	Assy. Flare Valve 5/8"	R50059020805
	M5LC 061C/CR	
	Assy. Flare Valve 3/4"	R50059022642
4	Assy, Partition	
	M5LC 050C/CR	R50014053277
	M5LC 061C/CR	R50014051773
5	Compressor	
	M5LC 050C/CR	R50049022878
	M5LC 061C/CR	R50049025385
6	Service Panel	R01010029898
7	Accumulator	R02119024262
8	Back Panel, Right	R01014053233
9	Top Panel	R01011029900
10	Assy. Coil	
	M5LC 050C/CR	R50024084456
	M5LC 061C/CR	R50024081276
11	Bracket, Fan Motor	
	M5LC 050C/CR	R01014053232
	M5LC 061C/CR	R01014051775

No	Description	Part No
12	Side Panel, Left	R01010029899
13	Fan Motor	
	M5LC 050C/CR	R03039016103
	M5LC 061C/CR	R03039006814
14	Fan Blade	R03013028160
15	Front Panel	
	M5LC 050C/CR	R50014053236
	M5LC 061C/CR	R01014051758
16	Plate, Flare Vlave	R01013034235
Parts Not in Diagram		
	Phase Sequencer	R04089017029
	High Pressure Switch	R04104061879
	Low Pressure Switch	R04109015400
	Assy. 4 Way Valve	R05019019861
	Capacitor, Fan Motor	R04029026761
	Cap Tube	
	M5LC 050C	R50024099357
	M5LC 050CR	R50024099359
	M5LC 061C	R50024099703
	M5LC 061CR	R50024095781
	Contactor	R04039018866

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